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IN THE
Supreme Court of the United States

OCTOBER TERM, 1937.

No. [REDACTED]

1

GENERAL TALKING PICTURES CORPORATION,

Petitioner,

vs.

**WESTERN ELECTRIC COMPANY, INCORPORATED, ELECTRIC
RESEARCH PRODUCTS, INC. AND AMERICAN
TELEPHONE AND TELEGRAPH COMPANY,**

Respondents.

BRIEF FOR RESPONDENTS.

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IN THE

Supreme Court of the United States

OCTOBER TERM, 1937

No. 357

GENERAL TALKING PICTURES
CORPORATION,
Petitioner,

VS.

WESTERN ELECTRIC COMPANY, INCOR-
PORATED, ELECTRICAL RESEARCH
PRODUCTS, INC. and AMERICAN
TELEPHONE AND TELEGRAPH COM-
PANY,

Respondents.

BRIEF FOR RESPONDENTS.

Opinions of the Courts Below.

The opinion of the Circuit Court of Appeals for the Second Circuit is reported in 91 F. (2d) 922. It will be found in this record at Volume III, page 1712.

The opinion of the District Court is reported in 16 F. Supp. 293. In this record it is at Volume III, page 1618.

Jurisdiction.

This case is here on a writ of certiorari to the Circuit Court of Appeals for the Second Circuit under the provisions of United States Code, Title 28, Section 347.

Statement of the Case.

The inventions of the patents involved in this infringement litigation relate to vacuum tube amplifiers.

All of these patents that are now before this Court were held valid and infringed in this case in concurring decisions by the District Court for the Southern District of New York and by the Circuit Court of Appeals for the Second Circuit.

These patents are:

1. *Lowenstein, No. 1,231,764*, issued July 3, 1917 (II, 616)—*The Negative Grid Bias Patent*—filed April 24, 1912; claims 1, 2, 4, 5, 6, 7; these same claims were sustained also in *Western Electric Co., et al. v. Wallerstein*, 60 F. (2d) 723 (C. C. A. 2) and claims 1 and 7 were sustained previously in *Radio Corp. et al. v. Bunnell, et al.*, 22 F. (2d) 847 (S. D. N. Y.), from which no appeal was taken.
2. *Mathes, No. 1,426,754*, issued August 22, 1922 (II, 621)—*The Grid Biasing Resistance Patent*—filed October 23, 1916; claim 8; sustained in *Radio Corporation v. Bunnell, et al., supra*.
3. *Arnold, No. 1,329,283*, issued January 27, 1920 (II, 628)—*The Power Circuit Patent*—original applications filed May 28, 1914; claims 7, 10, 13.
4. *Arnold, No. 1,403,475*, issued January 17, 1922 (II, 637)—*The Resistance-Capacity Coupling Patent*—original application filed September 3, 1915; claims 8, 9, 10.
5. *Arnold, No. 1,448,550*, issued March 13, 1923 (II, 641)—*The Definite Input Impedance Patent*—original applications filed September 3, 1915 and November 2, 1915; claims 1, 12.
6. *Arnold, No. 1,465,332*, issued August 21, 1923 (II, 644)—*The Common Plate Supply Patent*—original application filed September 3, 1915; claims 1, 3, 5, 8, 10, 11.

Two additional patents, which were held invalid below, are not before this Court.

The inventions covered by all of these patents were made between 1912 and 1916 when the amplifier art was in its infancy, and long before amplification had been applied commercially to the now commonplace fields of radio broadcast transmission and reception, public address systems and talking motion pictures. All of these inventions are products of research in telephony. And, with the single exception of the Lowenstein invention, all were made by research scientists in the employ of respondent, Western Electric Company, the manufacturing subsidiary of respondent, American Telephone and Telegraph Company.

It was in 1912 that DeForest took his three-element vacuum tube detector to the Telephone Company.¹ During the six years that had elapsed since his invention of this device, DeForest had made little or no progress with it as an amplifier.² Neither he nor anyone else knew how the mysterious thing worked.³

The present day usefulness of that tube as an amplifier is attributable in large part to inventions of patents here in suit, which were made by engineers of the Telephone Company in the course of the intensive development work which they began in 1912. It was as a result of certain of those inventions in vacuum tube amplifiers that the Telephone Company was enabled to inaugurate transcontinental telephone service early in 1915, and to talk by radio telephone between Arlington, Va., and Honolulu, Paris and other distant places later in that year.⁴

In his Franklin Institute paper of 1920,⁵ DeForest characterized this work of the Telephone engineers as "be-

¹ III, 1655.

² II, 724, and *Western Electric Co. v. Wallerstein*, 60 F. (2d) 723, 724.

³ See the statement in DeForest's patent No. 879,532, III, 1429, lines 77 to 82.

⁴ I, 105; and see the contemporaneous comments of the public press on these great achievements, II, 659.

⁵ II, 716, 717.

yond all praise" and "unique in the annals of brilliant achievement in electrical engineering".¹

The leader in this work was Dr. Arnold, who, at the time of his death in 1933, was the director of research of the Bell Telephone Laboratories.² The four patents here in suit which bear his name represent important contributions which he himself made at the inception of this new art.

The broad and difficult problem with which these early workers in this art were confronted was to amplify, *without distortion*, and *with large increase in energy*, substantially the entire range of frequencies composing the audible spectrum,³ and particularly the highly complicated combinations of widely different frequencies which constitute the usual sounds of speech and music. Distortion was due to many causes and occurred at various points in the amplifier. Every circuit and circuit element, from the point at which the sound currents to be reproduced are picked up to the point at which they are finally reproduced in amplified form, was a potential source of distortion and each such source presented its own individual problem which had to be solved before a faithful reproduction could be obtained. And in order to secure the large increase in energy that was required, it was necessary to ascertain the principles of operation of the mysterious three-element vacuum tube, and to discover how it should be constructed and with what circuits it should be used, so as to give that enormous amplification.

The inventions of the patents in suit represent solutions of these various problems. These inventions have been

¹ See also the same paper, II, 719.

² I, 587. The Bell Telephone Laboratories was formed in 1925 and has since conducted the research and development work formerly carried on by the Western Electric Co.

³ The range of audible frequencies is from 16 to 16,000 vibrations per second, as compared with the piano range of from 30 to 5,130 vibrations per second.

used extensively over a long period of years in numerous fields, including wire telephony, radio telephony, public address systems, electrical recording and reproducing of phonograph records, talking motion pictures and many others.¹

Petitioner admits the usefulness and commercial success of these inventions,² and admits also that all of them are embodied in its amplifiers which are here charged to infringe.³

Representing as they do, inventions made at the very beginning of the amplifier art, the patents in suit have reached, or are about to reach, the end of their terms. Two of them have expired during this litigation. All of the remainder will expire by 1940.⁴

The Parties:

The respondents, plaintiffs below, are American Telephone and Telegraph Company and its subsidiaries, Western Electric Company, Incorporated, and Electrical Research Products, Inc. The Telephone Company owns the patents in suit. The two subsidiary companies are exclusive licensees under those patents in the commercial field of sound recording and reproducing.⁵ During the

¹ I, 91. See also the testimony of Wilcox as to the extensive use of the inventions in the Western Electric talking motion picture sound recording and theatre reproducing systems, I, 494-500.

² I, 502, 94, 498. The court below found that "There can be no earnest denial of the usefulness and commercial success of the inventions which were held valid below (III, 1713).

³ Petitioner's denial of infringement is based upon other grounds (*infra*, p. 8).

⁴ Nos. 1,426,754 and 1,403,475 expire in 1939; and Nos. 1,448,550 and 1,465,332 expire in 1940.

⁵ I, 603, 604; II, 1208; *Western Electric Co. et al. vs. Pacent*, 37 F. (2d) 14 (C. C. A. 2). Their exclusive license was subject to a non-exclusive license which had previously been granted to Radio Corporation in that field (III, 1400).

time of the infringement here complained of, those two companies were actively engaged under their exclusive license in making, and supplying to theatres, talking picture equipment which included amplifiers embodying the inventions of the patents in suit.

The petitioner was also a supplier of talking picture equipment to theatres.¹ The infringement with which petitioner is charged consists in supplying to theatres as part of their talking picture equipment, amplifiers which admittedly embody the inventions of the patents in suit.

Outline of Argument:

Each of the defenses here urged by petitioner was overruled by concurring decisions of the courts below. We shall devote a separate part of this brief to each of these alleged defenses.

Part I is devoted to the alleged defense to which petitioner's Points I and II are directed, namely, that petitioner did not infringe the patents in suit because its purchase of the amplifiers in question gave it an implied license to do with them as it chose.

Part II is devoted to petitioner's contention (Point III) that respondents are barred from maintaining this suit under principles of ratification and estoppel.

Part III is devoted to the alleged defense of invalidity against certain of the Arnold patents in suit (petitioner's Point IV) based upon the use of the inventions of those patents by the patent owner, which use occurred more than two years before the filing of the continuation applications upon which those patents issued, but *not* two years before the filing of the original applications disclosing those inventions. Petitioner contends that this defense is applicable to all four of the Arnold patents. But as we shall see, it cannot possibly apply to more than two of them, because the public use involved the inventions of only two.

Part IV is devoted to petitioner's assertion (Point V) that all of the patents in suit are invalid for anticipation or lack of invention over the prior patented art.

¹I, 367.

The alleged defenses to which Parts II and IV of this brief are directed (petitioner's Points III and V) were included in the specification of errors which the brief accompanying the petition stated would be urged if the writ of certiorari were allowed.¹ But no reference was made to them in the petition itself, either under the heading "Questions Presented",² or under the heading "Reasons relied upon for the Grant of a Writ of Certiorari",³ or elsewhere. And no mention was made of them in the Argument of the brief accompanying the petition. Therefore it would appear that these defenses were definitely *not* grounds "upon which the writ of certiorari was asked or granted."⁴

Furthermore, the questions raised in these two defenses are essentially questions of fact, and have been decided against petitioner by both of the courts below.⁵

For both of these reasons, we doubt that this Court will desire to consider these defenses on the present petition.⁶ However, since petitioner's brief deals with them we feel compelled to do likewise.

¹ Petition, pages 10, 11.

² *Id.*, page 5.

³ *Id.*, page 5.

⁴ In *Alice State Bank, et al. v. Houston Pasture Company*, 247 U. S. 240, 242 it was said:

"... But as that is not the ground upon which the writ of certiorari was asked or granted we confine our discussion to the matter relied upon in asking the intervention of this Court. *Hubbard v. Tod*, 171 U. S. 474, 494."

See also *Algernon S. Schafer v. Helvering*, 299 U. S. 171, 172.

⁵ *Thomson Spot Welder Co. v. Ford Motor Co.*, 265 U. S. 445, 447; *Concrete Appliances Co. v. Gomery*, 269 U. S. 177, 180; *Texas & N. O. R. Co. v. Brotherhood Ry. &c.*, 281 U. S. 548.

⁶ There is no conflict of decisions as to the validity of any of the patents.

PART I.

Petitioner had no license, implied or otherwise, under the patents in suit.

Petitioner contends that although the amplifiers in controversy embody the inventions of the patents in suit, petitioner's use of them did not infringe those patents because they were purchased by petitioner from American Transformer Company, a licensee under the patents, and therefore, according to petitioner, they carried with them an implied license permitting petitioner to do with them as it chose. A complete answer to this contention is, we believe, that the American Transformer Company's license was a *limited* license, and its sale of the amplifiers to petitioner was *outside of the scope of that license* and therefore an *infringement*, as was known at the time by both parties to the transaction. Accordingly, no rights under the patents were conferred upon petitioner by the sale.

The facts are these. Amplifiers embodying the inventions of the patents here involved are useful in various fields, including the *commercial* field of sound recording and reproducing, which embraces talking picture equipment for theatres, and the *private or home* field which embraces radio broadcast reception, radio amateur reception and radio experimental reception. We designate this latter field by the convenient expression "*private or home*", because practically all of the radio reception included in that field is of that character. As we have said, respondents, Western Electric Company and Electrical Research Products, Inc., were, at the time in controversy, exclusive licensees under the patents in suit, for the commercial field of sound recording and reproducing¹ and, under that license, were actively engaged in the business of supplying the patented amplifiers to talking picture theatres, etc. American Transformer Company was one of a number of manufacturers who held non-exclusive licenses confined to the manufacture and sale of the pat-

¹ I, 603, 604.

ented amplifiers for *private or home use*, as distinguished from *business or commercial use*.¹ These licenses were granted by Radio Corporation acting for itself and also for respondent, American Telephone and Telegraph Company, and were assented to by the latter.²

The American Transformer Company's license was confined by the express terms of the grant, to the right—

"to manufacture * * * and to sell [the patented amplifiers] *only for radio amateur reception, radio experimental reception, and radio broadcast reception* * * *."

In other words, the Transformer Company had *no right or license to sell the patented amplifiers for use in theatres as part of talking picture equipment, or for any other use not specified in its license*.

Nevertheless, the Transformer Company sold the amplifiers in controversy to petitioner for *that particular commercial use*. It did so knowing that they were going to be put to that use.³ This is established by the testimony of the Transformer Company's president⁴ and its sales agent.⁵ Indeed, petitioner *admits* that the Transformer Company "*knew that the amplifiers it sold to petitioner were to be used in the motion picture industry.*"⁶ Such sales were extensive and recurrent, continuing even after this suit was brought.⁷ Furthermore, petitioner, in

¹ Arrangements of this kind are not at all unusual. It is stipulated in this case (I, 585, 586):

"it is common practice where a patented invention is applicable to different uses, to grant written licenses to manufacturers under United States Letters Patents restricted to one or more of the several fields of use permitting the exclusive or non-exclusive use of the invention by the licensee in one field and excluding its use in another field."

² III, 1423.

³ III, 1415.

⁴ Emphasis ours throughout this brief unless otherwise noted.

⁵ I, 341, 383, 408.

⁶ I, 341.

⁷ I, 407, 408.

⁸ Brief, page 36.

⁹ III, 1580 et seq.

purchasing those amplifiers from the Transformer Company for that use, *had actual knowledge that the Transformer Company had no license to make such a sale, as the record clearly shows,¹ and as the District Court specifically found.²*

Although the Transformer Company knew that these amplifiers were to be used for the commercial use noted, and although it sold them *outside* of the license, for that particular use, it went through the form of affixing to them the same notice³ that it customarily affixed to amplifiers sold by it *under* the license, as required by its paragraph 5, *vis.* (III, 1418):

"License Notice—This Apparatus is Licensed Only for Radio Amateur, Experimental and Broadcast Reception Under the Following Patents of the Radio Corp'n of America and Associated Companies,"

listing the patents. The notice so affixed was a mere pretense and was intended by both the Transformer Company and petitioner to be "disregarded".⁴

The Circuit Court of Appeals found⁵—

"It was beyond the scope of the American Transformer Company's license to sell the amplifiers for the use

¹ I, 358, 359. In its letter of November 23, 1928 to petitioner, in reply to the latter's initial request for information and prices (II, 731), the Transformer Company said (II, 732):

"We have your letter of the 17th in regard to amplifiers to be used with phonograph and the like in theatres.

"The license which we have with the Radio Corporation of America is that the amplifier is to be used for broadcasting reception and for experimental and amateurs use only and not for commercial use. That is the type of license notice which is placed upon the amplifier and is the only way which we can sell them."

² III, 1637 and 1645. At page 1628, the court quotes the above letter in support of its finding.

³ I, 360, Plaintiffs' Exhibit 30; II, 734.

⁴ I, 370.

⁵ III, 1724.

for which it sold them to defendants [petitioner]. The sale was therefore an infringement and not a licensee's lawful sale."

After acquiring the amplifiers through this unlicensed, infringing sale, petitioner proceeded to lease them for a large consideration to theatres for use in reproducing talking pictures.¹ It is that act that is here charged as an infringement.

Argument.

In its main argument of non-infringement, petitioner ignores the fact that the sale of the amplifiers by the Transformer Company to petitioner was *outside* of the Transformer Company's license to sell, and treats the situation as if that sale had been *under* the patents in suit (i. e., by the patent owner itself or *under* a license from the patent owner). Upon the erroneous assumption that the sale was *under* those patents, petitioner contends that by that transaction it acquired the unrestricted right to use the amplifiers as it wished, in spite of its admission that it had actual knowledge at the time of sale that they were licensed for private or home use only and not for commercial use. For, says petitioner, a patent owner cannot under any circumstances or in any manner place a restriction, which will be enforceable under the patent law, upon the use to which a purchaser may put a device which has been made and sold under the patent.

We do not agree with this proposition of law. We believe the law to be that reasonable restrictions limiting the field of use of a patented device are enforceable under the patent law against a purchaser with notice. They have never been held otherwise. However, this point is not involved in this case because here, as we have seen, the

¹ I, 65. See the lease, II, 735.

sale to petitioner was not a sale *under* the patents, but a sale *in infringement* of the patents, brought about by petitioner's connivance with the Transformer Company, with full knowledge of all the facts. Therefore, we shall postpone our discussion of petitioner's proposition of law until after we have dealt with the issue actually presented by the facts in this case.

A.

The fact that the amplifiers in question were sold to petitioner by the American Transformer Company, which had a license under the patents in suit, does not excuse petitioner's infringement of those patents because that sale was outside of the Transformer Company's license, as both petitioner and the Transformer Company knew at the time. The Transformer Company's sale was itself an infringement and therefore could not confer upon petitioner any right or license under the patents.

As this Court said in *Bloomer v. McQuewan*, 14 How. 539, 549:

"The franchise which the patent grants, consists altogether in the right to exclude everyone from making, using, or vending the thing patented, without the permission of the patentee. This is all that he obtains by the patent."¹

A license is a mere permission granted by the patentee—a "mere waiver of his right to sue", *DeForest Radio Telephone Co. v. United States*, 273 U. S. 236, 242. If a licensee "performs an act in reference to the licensed invention which his license does not authorize . . . he is guilty of infringement". *Robinson on Patents*, Sec. 916.

¹ See also the full discussion in the *Paper Bag Patent Case*, 210 U. S. 405, 423, *et seq.*

"Any sale beyond the terms of the license is an infringement." *L. E. Waterman Co. v. Kline, et al.*, 234 Fed. 891, 893 (C. C. A. 4).

Thus, if the license grants permission to use a patented process for one purpose only, the licensee is liable as an infringer if he uses it for another purpose. *Rubber Co. v. Goodyear*, 9 Wall. 788, 799.

Similarly, as was stated by this Court in *United States v. General Electric Co., et al.*, 272 U. S. 476, 490:

"* * * The patentee may make and grant a license to another to make and use the patented articles, but withhold his right to sell them. The licensee in such a case acquires an interest in the articles made. He *owns* the material of them and may use them. But if he *sells* them, he infringes the right of the patentee, and may be held for damages and enjoined."

So also, if a license gives the licensee permission to make the patented thing and to sell it only within a particular territory, the licensee would be an infringer if he went into another territory and *there* sold the patented thing. Or, if the license gives the licensee permission to make devices covered by a patent and to sell them "for use only in connection with and as part of" machines of a specified type, the sale of those devices by the licensee as part of machines of a different type is an infringement. *Vulcan Mfg. Co. v. Maytag Co.*, 73 F. (2d) 136, 138 (C. C. A. 8).

Similarly where, as here, the license gives the licensee permission to make the patented devices and to sell them only for specified uses, their deliberate sale by the licensee *for an entirely different use*, is an infringement.

There can be no doubt of the correctness of the finding of the Circuit Court of Appeals that the Transformer Company's deliberate and unauthorized sale of amplifiers to petitioner for use in talking picture theatres, was "an infringement and not a licensee's lawful sale".¹

It follows that petitioner, which was fully conversant with all of the facts and which conspired with the Trans-

former Company in causing it to exceed the bounds of its license, acquired no rights under the patents with regard to those amplifiers by virtue of its purchase of them from the Transformer Company. Petitioner's subsequent leasing of those amplifiers to talking picture theatres was just as much an infringement of those patents as if petitioner had purchased them from someone who had no license at all, or as if petitioner had made them itself. Indeed, in view of petitioner's conspiracy with the Transformer Company in bringing about the infringing sale by that company to it, it is liable for that infringement, jointly with the Transformer Company, as well as for its own subsequent infringing use of the amplifiers.¹

Petitioner's argument on this point is fallacious:

In its statement of facts,² petitioner correctly states that the Transformer Company's license under the patents in suit was a license—

“to manufacture . . . and to sell *only* for radio amateur reception, radio experimental reception, and radio broadcast reception . . .” (Vol. I, pp. 332-335; Vol. III, p. 1415).³

For the reasons just stated, we cannot ignore the limited character of this license to sell, or the fact that the Transformer Company's sale of amplifiers to petitioner was known by both of them to be outside of the scope of that license. In our view, those facts dispose completely of the defense of non-infringement in this case.

Yet petitioner persists in blinking these facts. For example, in its statements of Point I and Point II,⁴ concern-

¹ Petitioner refers (Brief, p. 41) to the fact that respondents did not also sue the Transformer Company. That was not necessary. Since the Transformer Company and petitioner were both infringers, jointly and severally either or both could be sued. Respondents chose to sue petitioner which was in direct competition with the business of the licensed respondents in their exclusive field.

² Brief, page 4.

³ Brief, pages 13 and 22.

ing the alleged effect of the sale of a patented article which has been made "under the patent", petitioner avoids saying whether the sale it is talking about was made "*under the patent*", or *in infringement* of the patent; as in this case.

Similarly, in its heading on page 15, it speaks of the sale of a patented article by a licensee having "*a power of sale*", but avoids saying whether the sale to which it is referring is within the licensee's power of sale, or is outside of it, as in this case. And in supposed connection with our position that the sale of the amplifiers to petitioner, being outside of its vendor's power of sale, carried with it no rights under the patents in suit, petitioner says:¹

"In the first place the fact that the licensee undeniably had the right to *sell* is a complete answer."
(Emphasis is petitioner's).

That is no answer at all because it is untrue with respect to the sale to petitioner. The whole point is that *the vendor had no right to make this particular sale, as both it and petitioner knew.*

The situation is no different from that which might arise in the case of a licensee who had a license to sell only five machines. If such a licensee, after selling the five machines under his license, sold another one to a person who knew of the limitation of the license and that the license was being exceeded, that sale and the purchaser's subsequent use of the machine, would be infringements. As already noted, "any sale beyond the terms of the license is an infringement". *L. E. Waterman Co. v. Kline, et al.*, 234 Fed. 891, 893.² And an infringing sale carries with it no rights under the patent.

Petitioner also seeks to get some comfort out of its assertion that "to each amplifier made and sold by it to petitioner, there was attached a 'license notice' precisely as set forth in its license agreement with respondents".

¹ Brief, page 34.

² Brief, page 34.

³ *Supra*, page 13.

So far as the present point is concerned, the fact that "license notices" were attached to the amplifiers is of no moment whatever. The Transformer Company's license agreement provided:¹

"5. The Licensee shall affix to all Licensed Apparatus manufactured and sold by the Licensee under the terms of this Agreement, a license plate reading:

" 'Licensed only for Radio Amateur, Experimental and Broadcast Reception' * * * "

But petitioner's amplifiers were *not* "sold by the Licensee under the terms of this Agreement". They were sold *outside* of the terms of the agreement. It did no good for the Transformer Company to *pretend* that they were sold under the terms of the agreement by attaching to them the "license notice" required by the agreement for licensed sales.

Nor does the following assertion by petitioner advance its argument in the slightest:²

"* * * If the licensee, in exercising his right to sell, is claimed, nevertheless to have breached some express covenant in his license agreement, the remedy—and the only remedy—of the licensor lay in a suit against the licensee because of the breach. No cause of action—and certainly not one under the patent law—would lie against the purchaser."

We are not relying here on any breach of covenant by the Transformer Company. Our claim is that in selling the patented amplifiers to the petitioner for use in talking picture equipment for theatres, that company made a sale which the patent owner had not granted it permission to make, and which was therefore an infringement. Accordingly, the fact that petitioner acquired the amplifiers by virtue of that sale affords no defense to the charge of infringement in this case against petitioner for its own infringing use of the amplifiers.

Petitioner refers to the lower court decision in *Mitchell v. Hawley*, 11 Fed. Cas. 883, 885 (Case No. 6250).³ In that

¹ III, 1418, paragraph 5.

² Brief, page 35.

³ Brief, page 34.

case the court was considering the question of whether the purchaser of a patented machine was liable as an infringer for using the machine during the extended term of the patent.¹ It held that he was, since his vendor was a licensee under a restricted license which "expressly provided that he shall not, in any way or form, dispose of any license to use the machines beyond the third day of May, 1867", that being the date of expiration of the original term of the patent, and "he clearly could not convey any greater rights than he possessed". The decision of the Circuit Court was affirmed by this Court (*Mitchell v. Hawley*, 16 Wall. 544). Instead of support-

¹ The term of the patent had been extended under the provisions of Sec. 18 of the Patent Act of 1836 (5 Stat. at large 117) then in force, which read:

"Section 18. *And be it further enacted.* That whenever any patentee of an invention or discovery shall desire an extension of his patent beyond the term of its limitation, he may make application therefor, in writing, to the Commissioner of the Patent Office, setting forth the grounds thereof; * * *. And if, upon a hearing of the matter, it shall appear to the full and entire satisfaction of said board, having due regard to the public interest therein, that it is just and proper that the term of the patent should be extended, by reason of the patentee, without neglect or fault on his part, having failed to obtain, from the use and sale of his invention, a reasonable remuneration for the time, ingenuity, and expense bestowed upon the same, and the introduction thereof into use, it shall be the duty of the Commissioner to renew and extend the patent, by making a certificate thereon of such extension, for the term of seven years from and after the expiration of the first term; * * * and thereupon the said patent shall have the same effect in law as though it had been originally granted for the term of twenty-one years. *And the benefit of such renewal shall extend to assignees and grantees of the right to use the thing patented, to the extent of their respective interests therein [Italics ours]: Provided however [Italics in original], That no extension of a patent shall be granted after the expiration of the term for which it was originally issued."*

ing petitioner's argument the case is clear authority against it, as was held by both of the courts below.¹

Petitioner's fragmentary quotation from the lower court's decision in that case,² tends to convey exactly the opposite meaning from that intended by the court. In that portion of its opinion the court was drawing a contrast between the situation as it actually existed, with the vendor a restricted licensee, and the situation which would have existed if the vendor had been "a territorial assignee" of the original patent, i. e., the owner of that patent for a given territory. Being only a restricted licensee, the court said (p. 885):

"He had no power to sell a machine so as to take it out of the monopoly of the patent."

But, the court continued—and in this quotation we have italicised the words for which petitioner substituted asterisks—

"Had he *been a territorial assignee and* possessed the power to sell the patented machines, the purchaser would have acquired a title which would have been outside of the monopoly, and would have acquired the absolute right to use the machines during the extended term; and this notwithstanding any covenants Bayley might have made not to convey such a title. Under such circumstances, the patentee must have sought his remedy against Bayley on his covenants."

Under these circumstances, the patentee would have had to pursue his remedy against the vendor on his covenants because a territorial assignee, being the owner of the patent for that territory and having, therefore, an absolute right to sell the patented machines in that territory, could not have *infringed* the patent by any sale made *within* that territory, no matter how unrestricted the sale might have been.

¹ III, 1724, 1630. And see our further discussion of the case, *infra*, pages 29, 38-42.

² Brief, page 35.

But that has no bearing on this case, where petitioner's vendor was not a territorial assignee under the patent, but only the holder of a limited license, and where its sale to petitioner was outside of its license and therefore an infringement. There can be no valid excuse for petitioner's omission of the essential words from the above quotation.

The cases of *Adams v. Burke*, 84 U. S. (17 Wall.) 453, *Hobbie v. Jennison*, 149 U. S. 355, and *Keeler v. Standard Folding Bed Co.*, 157 U. S. 659, cited at page 37 of petitioner's brief emphasize still further, the difference between a territorial assignee, and the holder of a limited license to sell. In each of those cases the vendor was a territorial assignee of the patent, and had made an absolute and unrestricted sale of the patented device within his own territory, as he had a perfect right to do, in view of his ownership of the patent for that territory.¹ In the first and last of these cases the defendants (alleged infringers) were the persons who had purchased the patented devices from the territorial assignees by sales of that character, and had then proceeded to use or sell them outside of their vendor's territory. In the second of these cases (*Hobbie v. Jennison*), the suit was against the territorial assignee himself, who had made an absolute sale of patented articles in his territory, with knowledge that they were to be used elsewhere by the purchaser. In each case it was held that there had been no infringement. In making the unrestricted sale, within his territory, the territorial assignee had done only what he had a right to do under the patent. The patented articles had been "lawfully made and sold",² i. e., sold under the patent because sold within the territory covered by the assignment.

¹ At pages 35 to 37 of its brief petitioner misconstrues these cases in assuming that the vendor's "right to sell" was restricted.

² *Adams v. Burke*, 17 Wall. 453, 457; *Hobbie v. Jennison*, 149 U. S. 355, 363.

The distinction between these cases and the present one is clear. For, as we have said, the vendor in the present case was not an assignee of the patents, territorial or otherwise, but only the holder of a limited license under them; and its sale to petitioner, instead of being a "lawful" sale, was beyond the terms of its license and therefore "an infringement and not a licensee's lawful sale".¹

Neither the case of *Straus v. Victor*, 243 U. S. 490, nor the *Motion Picture Patents* case, 243 U. S. 502, both of which are cited at page 38 of petitioner's brief, has any bearing upon the present question.

The first of these cases stands for the proposition that the patent law does not give a patent owner the right to fix the resale price of his patented article, the second, that it does not give him the right to compel the purchaser of a patented machine sold under a patent, to use it only with *unpatented* supplies purchased from the patent owner. They are discussed more in detail later.²

The license of American Transformer Company affords no defense to the charge of infringement against petitioner in this case. For the Transformer Company's sale to petitioner was not *under* that license, but *outside* of it, as both of them knew. Therefore that sale, and petitioner's subsequent use, of the amplifiers, were just as clearly *infringements* of the patents, as if the vendor had had no license at all.

We come now to our discussion of the contention made by petitioner in its Points I and II.

¹ Opinion of Circuit Court of Appeals in this case (III, 1724).

² *Infra*, pages 33, 36, 46.

B.

Reasonable restrictions of the character here involved, which limit the field of use of a patented device sold under the patent, are valid and enforceable under the patent law as against one who has purchased the device with knowledge of the restrictions. Therefore petitioner would have been an infringer even if the sale of the amplifiers to it had been under the patents in suit instead of *in infringement* of those patents.

This point of law would become germane to this case only if this Court should find that the sale of the amplifiers to petitioner was within the terms of the vendor's license. As we have already pointed out, the record shows that it was not, and the court below so found. Therefore, the point is moot. Our discussion of it, as in the Courts below, is by way of replying completely to petitioner's brief, which we feel compelled to do. This discussion will necessarily be of some length because of the nature of the point: *For the purpose of this discussion, and solely for this purpose, we shall disregard the fact—which itself disposes completely of the defense of non-infringement—that the sale of the amplifiers to petitioner was in infringement of the patents.*

In order to overcome the charge of infringement in this case, petitioner must show affirmatively that it had a license to use the amplifiers in question, in the field in which it used them, namely, in the commercial field of talking motion picture reproduction in theatres. For, as we have seen, petitioner admits that those amplifiers embody the inventions claimed in the patents in suit.¹ Peti-

¹ License is an affirmative defense to be established by the party asserting it. *Sherman, Cloy & Co. vs. Searchlight Horn Co.*, 225 Fed. 497, 500; *Union Special Mach. Co. vs. Maimin*, 185 Fed. 120, 128.

tioner does not contend that it ever received an express license to use them in that field. On the contrary, at the trial petitioner's counsel stated that the amplifiers were sold to petitioner with the limited license to use them only for radio amateur, experimental, and broadcast reception. In this connection counsel said:¹

" * * * The apparatus was sold to us with that limited license of use, in accordance with the express terms of the American Transformer license, noticed right on the instrument itself."

Nevertheless, petitioner seeks to establish that it was licensed to use these amplifiers for the commercial reproduction of talking pictures in theatres, by contending that from a legal standpoint, the limitations of that express license were void *ab initio*, and that therefore petitioner acquired with the amplifiers an unlimited license to use them in any and all fields.

In support of this contention petitioner argues that the sale of a patented device under the patent, automatically and inevitably conveys to the purchaser, by implication, an unrestricted license to do what he will with the thing purchased, and that it is impossible for the patentee to overcome that implication even by a notice of the restrictions brought home to the purchaser at the time of the purchase. According to petitioner, the sale "exhausts the monopoly of the patent owner as to the particular article involved",² irrespective of any precautions that may be taken to avoid this result. In this connection, petitioner quotes general language from decisions by this Court about the sale of a patented article taking it out of the patent monopoly.

Later³ we shall discuss these decisions and point out that the language which petitioner quotes from them had its origin in cases which did not involve *restricted* sales of patented articles, and that it should be un-

¹ ¶ 325.

² *Infra*, pages 37-49.

³ Brief, page 14.

derstood as applying only to unrestricted sales. The only instances in which this Court has held restrictions imposed in connection with the sale of a patented device to be invalid are (1) where the restrictions sought to fix the resale price of the device, and (2) where they sought to compel the purchaser of the device to purchase from the patentee *unpatented* supplies required in the operation of the patented device. These restrictions were held invalid as against public policy—those of the first class because it was deemed undue restraint of trade to allow the vendor of an article, whether patented or unpatented, to dictate resale prices, and those of the second class because they attempt to include within the scope of the patent monopoly materials which are not covered by the patent.

Reasonable restrictions limiting the field of use of a patented device, such, for example, as the one in which we are interested in this case, do not fall within either of these classes and, as petitioner appears to concede,¹ *have never been held invalid*. They are not against public policy, or outside of the scope of the patent monopoly. In our view they are valid and enforceable against a purchaser with notice.

Public policy is not opposed to, and on the contrary distinctly requires, the enforcement of reasonable restrictions on the field of use of a patented device:

Restrictions of this character are beneficial to the public because they promote the purposes of the patent laws, make for fair dealing between the patentee and the public, and stimulate trade and the development of the arts. Frequently, as in this case, the value derivable from the commercial use of the patented device far outweighs the intrinsic value of the thing itself. Reasonable restric-

¹ Brief, page 10. There petitioner refers to the decisions of this Court merely as being "on closely *analogous* questions", and, on page 39, to the "*trend* of the decisions of this Court". On page 29, petitioner admits a distinction "in the character of the restrictions" involved, between the case at bar and this Court's decisions in the above two classes of cases.

tions limiting the field in which such devices may be used, make it possible for a patentee to sell them to the general public at reasonable prices, for use in other fields, while still retaining his exclusive rights in the particular commercial field in which he himself is using the invention.

Were it not possible for him to do this, he would have to elect between two alternatives. He would either have to increase his selling price to the public to an extent sufficient to compensate him for any resultant loss that he might suffer in his own field of use, or he would have to exercise to a greater degree the right of exclusion granted by his patent, and refrain from making or permitting *any* distribution of the patented devices to the general public, as he would have a perfect right to do.¹

Neither of these alternatives would be advantageous to the public. The extra price which it would be necessary for the patentee to exact from every purchaser, under the first alternative, would, in many cases, be a payment for something that the purchaser did not want, since the purchaser would have no desire to use the patented device in the patentee's field. And under the second alternative, the general public would not be permitted to enjoy the invention until the expiration of the patent monopoly.

If, on the other hand, as we believe to be the case, reasonable restrictions limiting the field of use of a patented device are enforceable under the patent law, the public may acquire such devices freely, and *by paying only for what they want*. For example, a radio enthusiast may buy a patented amplifier for use in his home by paying a price which the patentee is willing to accept for such a sale, and without being required to pay for the privilege (which he does not want) of using it for commercial purposes. In our view it is far more important that the interests of the public generally should be served by making possible restricted sales of this kind, than it is to permit someone like this petitioner to acquire a patented amplifier at a price and under a license, which con-

¹ Paper Bag Patent Case, 210 U. S. 405, 425, *infra*, page 57.

template that it will be used only in the home, and then to use it in the field in which the patentee himself is commercializing the invention.

The view which we advocate is fair to the inventor and the public alike; it encourages and promotes trade, and it provides the incentive to invention and to the investment required for the development of inventions, which it was the object of the patent laws to create.

The authorities sustain the enforceability of express restrictions of the character here involved:

We agree fully with the proposition that an authorized sale of a patented device, made *without notice of any restriction*, gives to the purchaser an implied license to do with it as he will. To use petitioner's language, such a sale indeed "exhausts the monopoly of the patent owner as to the particular article involved". But when the sale is made with knowledge of a restriction limiting the field of use of the device, or other *reasonable restrictions actually within the scope of the patent monopoly*, the usual unrestricted license is replaced by an express restricted license. And if, thereafter, the purchaser exceeds the bounds of that restricted license, he is liable as an infringer.

Preliminary to our discussion of the authorities relating directly to the validity of these restrictions, we call attention to the following statement from *Bement v. National Harrow Co.*, 186 U. S. 70, 91 (the decision in which was reaffirmed in *United States v. General Electric Co., et al.*, 272 U. S. 476, 490):

"* * * Notwithstanding these exceptions, the general rule is absolute freedom in the use or sale of rights under the patent laws of the United States. The very object of these laws is monopoly, and the rule is, with few exceptions, that any conditions which are *not in their very nature illegal* with regard to this kind of property, imposed by the patentee and agreed to by the licensee for the right to manufacture or use or sell the article, will be upheld by the courts."

It is from this point of view that the question of law now under discussion, should be considered. Unless the

restriction is in its "very nature illegal" it "will be upheld by the courts". As we shall see, this rule has been consistently followed by the courts and under it restrictions upon the use of the patented thing itself, has always been upheld.

The General Rule as Stated by the Authorities:

The true rule, as we have outlined it above, is well expressed in *Robinson on Patents*,¹ Sec. 824, as follows:

"There are certain cases in which the law implies a license from the dealings of the parties with each other, or from the relations which subsist between them. The most frequent and important of these cases arises when a patented article is sold by anyone who has a right to sell it. From such a sale the law implies a license to the purchaser, and to every subsequent owner of the article, to use it as long as identification can be preserved. This implied license rests upon the principle that the owner of the patented invention, having once received his recompense for releasing the article from the monopoly, either in the price directly paid to him or in the license-fee which he collects from its vendor, he can thereafter neither limit nor demand compensation for its use, but by the sale delivers it from all the restrictions of the patent and makes it common property like any other personal estate. To have that effect, however, the sale must be a lawful and unconditional sale. * * * *Not only must the patentee impose conditions, limiting the use of the patented article, upon his grantees and express licensees, but any person having the right to sell must at the time of sale restrict the use of his vendee with specific boundaries of time or place or method, and these will then become the measure of the implied license arising from the sale.* But when the sale is unconditional, as is the case in ordinary sales authorized vendors in open market, the implied license gives to the purchaser and his vendees the unrestricted

¹ Robinson has been recognized for years as the greatest and most authoritative work on Patents and has been cited repeatedly by this Court. For example, Robinson is cited in *DeForest v. United States*, 273 U. S. 236, 242, on the subject of license.

right to use the article unless such use infringes some other patent than the one by which the article itself has been protected."

As Judge Wallace put it in *Holiday v. Mattheson*, 24 Fed. 185, 186 (C. C. S. D. N. Y.):

"* * * When the owner of a patent sells the patented article under circumstances which imply that the purchaser is not to acquire an unqualified property in the thing purchased, as where a license accompanies the transfer, the purchaser's rights are limited to the extent of the monopoly granted to him."

In *Dickerson v. Tining*, 84 Fed. 192 (C. C. A. 8), a patentee, who owned both United States and foreign patents for a certain drug, had sold the patented drug in Germany to the defendant. Notice that the drug was not to be imported into or resold within the United States, appeared upon the packages containing the drug. The defendant was held liable as an infringer having resold the drug in the United States. The court stated the rule as follows (p. 195):

"* * * there can be no doubt that a patentee has the same right and power to sell the patented article upon conditions or with restrictions that he has to sell it at all. * * * If the corporation sold the patented article subject to such a restriction, the purchasers, with a notice of this limitation, whether immediate or remote, could acquire no better right than strangers to infringe upon the monopoly secured by the patent."

In *Dickerson v. Matheson, et al.*, 57 Fed. 524 (C. C. A. 2), the same ruling had previously been made upon a similar state of facts.

The Court of Appeals for the Second Circuit in *General Electric Co. v. Continental Lamp Works*, 280 F. 846 (a case decided long after this Court's decisions upon which petitioner relies, *infra*, p. 37), held that the sale by the plaintiff of bases for electric lamps did not carry with it a license under the plaintiff's lamp patents, in view of notice to that effect brought home to the purchaser at the time of his purchase. The court said (p. 851):

"Use of an invention can only be obtained on the inventor's terms. Without paying or doing what-

ever he exacts, no one can be exempt from his right to exclude, and, whatever the terms, the courts will enforce them, provided only that the licensee is not thereby required to violate some law outside of the patent law. . . .

"So, where the owner of a patent sells a patented article subject to a restriction, the purchasers, with notice of this limitation, could acquire no better right than strangers to infringe upon that part or claim of the monopoly still secured to the patentee" (citing *Dickerson v. Tinling, supra*).

The same rule obtains in England. Thus it is said in *Terrell on Patents*, 8th Edition, 1934, the leading English textbook authority (p. 273):

"A purchaser of patented goods without notice of restrictions affecting such goods is free to use and sell them in any way he chooses,¹ but if he has such notice at the time of his purchase and contravenes such restrictions he is liable to be sued for infringement by the patentee, as the restrictions are 'not contractual but are incident to and a limitation of the grant of the license to use, so that, if the conditions are broken, there is no grant at all'.²

¹ Citing *Betts v. Willmott*, L. R. 6 Ch. App. 239, at p. 245; *Incandescent Gas Light Co., Ltd. v. Cantelo*, 12 R. P. C. 262; *Incandescent Gas Light Co., Ltd. v. Brogden*, 16 R. P. C. 179; *Scottish Vacuum Cleaner Co., Ltd. v. Provincial Cinematograph Theatres, Ltd.*, 32 R. P. C. 353 (O. H.).

² Citing *Farwell, J.*, in *British Mutoscope & Biograph Co., Ltd. v. Homer*, 18 R. P. C. 177, at p. 179; see also *National Phonograph Co. of Australia, Ltd. v. Menck*, 28 R. P. C. 229 (P. C.) at p. 248; see also *Columbia Phonograph Co. General v. Regent Fittings Co.*, 30 R. P. C. 484; *Columbia Graphophone Co. v. Vanner*, 33 R. P. C. 104; *Columbia Graphophone Co., Ltd. v. Murray*, 39 R. P. C. 239; *Columbia Graphophone Co., Ltd. v. Thoms*, 41 R. P. C. 294.

The English case of *Taddy v. Sterious*, L. R. (1904) 1 Ch., 354, cited on page 35 of petitioner's brief, related to a resale price restriction on *unpatented* articles. The above cases in this footnote, cited by Terrell, are the controlling English cases enforcing restrictions on *patented* articles after sale.

"The question of the knowledge of the defendant is one of fact in each case, as to which the passing of some leaflet or label with the goods at the time of sale may or may not be sufficient evidence according to the nature of the goods and the general circumstances. It is not essential that the purchaser should have knowledge of the precise restrictions concerned so long as he has knowledge of their nature and existence and means of knowledge of their exact extent."¹

Decisions Applying the Rule to Restrictions upon the Use of the Patented Device Itself:

In every case with which we are familiar where it has been necessary to pass upon *restrictions upon the use of the patented device itself*, the rule stated in the above quotations has been followed, and the restrictions held valid and enforceable under the patent law.

The only case in which this Court has been required to pass directly upon restrictions of this character is *Mitchell v. Hawley*, 16 Wall. 544, previously referred to.² The restriction there in question limited the time during which the patented machines could be used. It permitted their use only during the original term of the patent. The defendant had purchased the machines from a licensee whose license did not permit him to grant the right to use them beyond that term. The purchaser was held *chargeable with knowledge* of the limited character of his vendee's rights. The patent term was extended under the provisions of the Patent Statute then in force.³ The purchaser continued to use the machines after the expiration of the original term. *This Court held that such use exceeded the right to use, acquired by the purchaser, and was an infringement.* It was argued in that case (p. 546) that

² Citing *Columbia Graphophone Co., Ltd. v. Murray*, 39 R. P. C. 239; cf. *Badische Anilin und Soda Fabrik v. Isler*, 23 R. P. C. 633 (C. A.).

³ *Supra*, pages 16-19.

¹ Quoted, *supra*, page 7.

the sale "operated to take *the thing sold* out of the reach of the Patent Act altogether, and that as long as the machines themselves lasted, the owner could use them"—the same argument that is urged upon the Court in the present case. The Court decided against the defendant, nevertheless, for the reasons stated above. And the Court, distinguishing *Bloomer v. McQuewan*, 14 How. 549, here relied upon by petitioner, made clear its recognition of the rule that a sale made "without any conditions" would have had the effect for which the defendant was contending.¹

¹ The Court said, page 547:

"... a patentee, when he has himself constructed a machine and sold it *without any conditions*, or authorized another to construct, sell, and deliver it, or to construct and use and operate it, *without any conditions*, and the consideration has been paid to him for the thing patented, the rule is well established that the patentee must be understood to have parted to that extent with all his exclusive right, and that he ceases to have any interest whatever in the patented machine so sold and delivered or authorized to be constructed and operated."

also, that the purchaser of a machine *under such circumstances*

"may continue to use it until it is worn out, in spite of any and every extension subsequently obtained by the patentee or his assigns."

And, the Court cites in this connection *Bloomer v. McQuewan*, 14 How. 549, and *Chaffee v. Boston Belting Co.*, 22 How. 223, cases which so hold. But the Court said further (p. 548), that

"Sales of the kind may be made by the patentee *with or without conditions* . . ."

and, since, in the case before the Court, the right granted to the maker of the machines had been expressly limited by the license contract so that he could not license the use of them beyond the expiration of the original patent, the Court enjoined as an infringement, the further use of the machines.

This decision has never been overruled by this Court. It has been cited frequently by this Court, and has been followed in many decisions of the lower courts, for example, in *Porter Needle Co. v. National Needle Co.*, 17 Fed. 536 (C. C., D. Mass., Lowell, J.) in which another restriction upon the duration of the permitted use was upheld. In that case, the court construed the document before it as a sale of certain patented machines conditioned upon payment of royalty up to a certain date, without the right to use the machines thereafter unless some further agreement should be made. After the stipulated period had expired, no new agreement having been made, the court enjoined the use of the machines and said (p. 537):

"We agree that the words, 'the said seven machines are valued at \$800, the receipt of which is acknowledged,' import a sale of the machines; and that an absolute and unqualified sale of a patented machine carries with it the right of use. But the mere value of a patented machine is often, and is proved to be in this case, insignificant in comparison with the value of its use; and the courts have permitted a severance of ownership and right of use, if the patentee has chosen to dis sever them, and if his intent is not doubtful. For instance: a license to use a machine implies the right to make and own it; and yet, if the owner neglects to pay the license fee, he may be restrained from using a machine to which his title is undoubted. One who is licensed to make, use, and sell machines for the term of the patent, and no longer, sells a machine with the right to use it. The purchaser owns the machine, but if the patent is extended, he has no right to use it, during the extended term, without a further license from the patentee. *Mitchell v. Hawley*, 16 Wall. 544. In many other cases the ownership of the machine will not necessarily carry with it the right to use it without the permission of the patentee."

In *Skee Ball Co. v. Cohen*, 286 Fed. 275 (D. C. E. D. N. Y.), a case decided long after the decisions of this

Court that are relied upon by petitioner, the court upheld a restriction imposed at the time of sale, limiting the use of the patented skee ball alley, to a prescribed area. The purpose of the restriction was to prevent destructive competition between licensees.

Decisions of this Court Establishing Exceptions to the General Rule:

As we have previously stated, only two specific exceptions have been established to the general rule as to the enforceability of restrictions brought home to the purchaser at the time of his purchase of a patented device. They are (1) restrictions attempting to fix the resale price, and (2) restrictions seeking to compel the purchaser to purchase unpatented supplies from a specified source.

(1) *Restrictions fixing the Resale Price:*

The case which established this exception to the general rule, with regard to patented articles is *Bauer v. O'Donnell*, 229 U. S. 1 (the "*Sanatogen*" case), in which the maker of a patent medicine attempted, by notice appearing upon the containers, to fix the price at which retailers purchasing it from him or from his dealers might sell it. In *Bobbs-Merrill Co. v. Straus*, 210 U. S. 339, the Court had held that restrictions fixing the resale price of copyrighted books could not be enforced under the copyright laws. In the *Bauer v. O'Donnell* case, it applied the same doctrine to the patent laws. The Court said, (pp. 11, 12):

"The object of the notice is said to be to effectually maintain prices and to prevent ruinous competition by the cutting of prices in sales of the patented article. That such purpose could not be accomplished by agreements concerning articles not protected by the patent monopoly was settled by this court in

the case of *Dr. Miles Medical Co. v. Park & Sons Co.*, 220 U. S. 373, in which it was held that an attempt to thus fix the price of an article of general use would be against public policy and void. It was doubtless within the power of Congress to confer such right of restriction upon a patentee. Has it done so?"

Then, after discussing the patent statute (and comparing it with the copyright statutes), the Court concluded that it must answer this question in the negative.

Thus the holding of *Bauer v. O'Donnell* is merely that there is nothing in the patent law that can save an attempt to fix resale prices of patented articles from the rule of public policy applicable to such attempts in the case of unpatented articles.

This doctrine was reaffirmed in *Straus v. Victor Talking Machine Co.*, 243 U. S. 490,¹ and *Boston Store v. American Graphophone Co.*, 246 U. S. 8. It is not applicable in any way to the present case.

(2) *Restrictions relating to Unpatented Supplies to be Used with a Patented Machine:*

The decision which established this exception is *Motion Picture Co. v. Universal Film Co.*, 243 U. S. 502. It specifically overruled *Henry v. Dick*, 224 U. S. 1, which had held that the general rule to which we have referred was applicable even to restrictions which apply not to the use of the machine that is covered by the patent, but to supplies not covered by that patent.

In this *Motion Picture* case a motion picture machine was sold by a licensee of the plaintiff (patent owner) with a notice that it could be used only with films leased from licensees of the plaintiff and containing the invention

¹ In *Straus v. Victor Talking Machine Co.* an attempt had been made to avoid the principle announced in *Bauer v. O'Donnell* by cloaking what was really a sale in terms indicating a mere license to use; but the Court looked through this disguise and treated the transaction as what it really was, a sale.

covered by another of plaintiff's patents (which had expired). The specific question considered by this Court was (p. 508):

"May a patentee or his assignee license another to manufacture and sell a patented machine and by a mere notice attached to it limit its use by the purchaser or by the purchaser's lessee, to films which are no part of the patented machine, and which are not patented?"

In answering this question in the negative, the Court placed its decision squarely on the ground that the patent law does not grant any monopoly *except a monopoly of the invention which the claims of the patent cover*, and that to allow a patentee, by such a restriction as to the use of supplies with his patented machine, to extend his monopoly to include articles not covered by the patent, is an unjustified restraint of trade and against public policy.

Thus the Court said (p. 518):

"Such a restriction is invalid because such a film is obviously not any part of the invention of the patent in suit; because it is an attempt, without statutory warrant, to continue the patent monopoly in this particular character of film after it has expired, and because to enforce it would be to create a monopoly in the manufacture and use of moving picture films, wholly outside of the patent in suit and of the patent law as we have interpreted it."

This statement alone makes it clear that the Court was confining its condemnation to restrictions of the character there before it, and that it had no intention of condemning restrictions, such as these here involved, upon the use of the patented machine itself. At other points in the opinion, this distinction is brought out even more forcibly. For example, at page 512, after referring to R. S. § 4884 which provides that every patent "shall contain . . . a grant to the patentee, his heirs or assigns . . . of

the exclusive right to . . . use . . . the invention or discovery", the Court said:

"Plainly, this language of the statute and the established rules to which we have referred restrict the patent granted on a machine, such as we have in this case, to the mechanism described in the patent as necessary to produce the described results. It is not concerned with and has nothing to do with the materials with which or on which the machine operates. The grant is of the exclusive right to use the mechanism to produce the result with any appropriate material, and the materials with which the machine is operated are no part of the patented machine or of the combination which produces the patented result. *The difference is clear and vital between the exclusive right to use the machine which the law gives to the inventor and the right to use it exclusively with prescribed materials to which such a license notice as we have here seeks to restrict it.* The restrictions of the law relate to the useful and novel features of the machine which are described in the claims of the patent, they have nothing to do with the materials used in the operation of the machine; while the notice restrictions have nothing to do with the invention which is patented but relate wholly to the materials to be used with it. Both in form and in substance the notice attempts a restriction upon the use of the supplies only and it cannot with any regard to propriety in the use of language be termed a restriction upon the use of the machine itself."

It seems obvious that if this Court in its earlier decision in *Bauer v. O'Donnell*, 229 U. S. 1, *supra*, (holding resale price restrictions invalid) had meant to hold, as petitioner implies, that all restrictions accompanying the sale of a patented device were invalid, it would not have placed this *Motion Picture* decision on the ground that the particular restrictions before it were restrictions "upon the use of supplies only" and not "upon the use of the machine itself." A mere statement of the broad proposition for which petitioner now contends would have sufficed. The great care

that this Court took in this decision to distinguish between these two different kinds of restrictions, indicates definitely that neither the *Bauer v. O'Donnell* decision nor this one, was intended to change the general rule as to the enforceability of restrictions, such as we have in the case at bar, which are actually "upon the use of the machine itself" and therefore *clearly within the patent monopoly*.

The *Motion Picture* case, and also the more recent *Carbice* case (*Carbice Corp. v. American Corp.*, 283 U. S. 27, and on rehearing page 420¹), by drawing a sharp distinction between restrictions on the use of unpatented supplies and restrictions relating to the use of the patented machine itself, constitute a most persuasive argument for the validity of the restriction here involved and are in accord with the authorities upon which we rely.

The restriction in the instant case comes under the general rule and is enforceable:

The restriction involved in this case, limiting the field in which the patented amplifiers may be used, is a restriction *upon the use of the patented machine itself*. Therefore, it falls within the general rule and is enforceable under the patent law.

Independent Wireless Telegraph Co., et al. v. Radio Corp. of America, et al., 269 U. S. 459, which came here on a question of joinder of parties, is of interest on this point. The defendant had purchased patented vacuum

¹ Petitioner merely cites (Brief, p. 28) the *Carbice* case as being to the "same effect" as the *Motion Picture* case. In the opinion on rehearing in the *Carbice* case this Court stated (p. 421) that in the first decision "we held that the bill should be dismissed on the ground that the owner of a patent may not limit its use so as to require that *unpatented* materials employed in practicing the invention shall be purchased from the licensor . . .". See also pages 31 to 33 of the first opinion discussing the *Motion Picture* case and basing the decision squarely on that case.

tubes to which were applied exactly the same restrictive notice as to field of use, that we are considering in this case. The infringement charged was the defendant's use of those vacuum tubes in the commercial field of radio communication between ship and shore for pay which was outside of the licensed field. The Court was not required to pass upon the validity of that restriction and did not do so. But in the statement of the case this Court did not suggest any doubt that it was valid. The Court said (p. 461):

"... there came from the DeForest Company to the Radio Corporation, exclusive rights to use and sell in the United States, for radio purposes, apparatus for transmission of messages, and especially for use between ship and shore for pay.

"The defendant, the Independent Wireless Company, has bought the same apparatus with the lawful right to use it in the amateur and experimental field only. The apparatus thus bought bears a label with such a limitation on its use. The charge in the bill is that the Independent Company is using the apparatus, or the part of it called 'radio tubes', in the commercial radio field between ship and shore for pay and thus is violating the Radio Corporation's rights in this field."

The statement that defendant bought the apparatus *"with the lawful right to use it in the amateur and experimental field only"* is believed to be significant.

The Decisions Relied upon by Petitioner:

As we have indicated, petitioner's primary reliance in support of its contention that the restriction which we are considering, is invalid and unenforceable even against a purchaser with notice, is upon broad language used by this Court to the effect that the authorized sale of a patented device takes it outside of the patent monopoly. Petitioner seeks to construe this language as meaning that there is nothing that the patentee can do to prevent this result; that the implication that an unrestricted license

goes with the passage of title cannot be overcome in any way, not even by specific notice to the purchaser at the time of the sale that only a restricted license is granted.

We do not believe that this Court ever intended the language in question to be interpreted as broadly as this but quite the contrary. Construed in the light of the cases in which it originated, we believe that this language should be confined to unrestricted sales, which concededly have the effect stated.

1. *Cases relating to Time of Use:*

The cases of this character to which petitioner refers,¹ like *Mitchell v. Hawley*, 16 Wall. 544,² involved questions arising out of extensions of the term of patents, under Section 18 of the Patent Act of 1836, or special Acts of a similar character.³ The decisions in the first two of these cases, cited by petitioner, *Wilson v. Rousseau*, 4 How. 646 and *Simpson v. Wilson*, 4 How. 709, were confined to an interpretation of this particular Section of the Act of 1836. They held that the benefit of an extension obtained under it did not inure to one who was a *territorial assignee* for the original term of the patent because the purpose of the Act was to benefit the inventor and not his assignees, but that the last sentence of the Section meant that one who had purchased a patented machine in the ordinary course (i. e. without any restriction as to the length of time it could be used) from the patent owner during the original term, could continue to use it during the extended term (p. 684).⁴ These decisions, confined as they are to the interpretation of a particular

¹ Brief, pages 16-18.

² *Supra*, pages 16-19, 29.

³ *Supra*, page 17.

⁴ It will be recalled that the last sentence of the statute expressly provided that "the benefit of such renewal shall extend to *assignees and grantees of the right to use the thing patented*, to the extent of their respective interests therein."

statute, give no support to petitioner's proposition that "the sale of a patented chattel exhausts the patent rights of the seller".¹

The first of the cases from which petitioner quotes in attempting to support this proposition is *Bloomer v. McQuewan*, 14 How. 539. It is the first case in which this Court used the broad language upon which petitioner relies. The respondents had purchased the right to construct and use certain patented machines, without limitation. They had constructed some of those machines, and continued to use them after the expiration of the original term of the patent. The term of the patent was extended by a special Act of Congress. The patent owner sought to enjoin respondents' further use of these machines.

Under the general provisions of the Act of 1836 relating to extensions of patents² respondents would have had the right to continue to use these machines during the extended term because they had previously acquired an unlimited "right to use" them. *Wilson v. Rousseau*, 4 How. 116, *supra*. The question before the Court was whether that same situation obtained under the special Act under which this particular patent had been extended. The Court held that it did, finding that Congress intended the special Act to be subject to the general provisions of Section 18 of the Act of 1836. The Court said (pp. 553, 554):

"The right to construct and use these planing machines, had been purchased and paid for without any limitation as to the time for which they were to be used. They were the property of the respondents. Their only value consists in their use. And a special act of congress, passed afterwards, depriving the appellees of the right to use them, certainly could not be regarded as due process of law.

¹ Brief, page 17.

² *Supra*, page 17. See particularly the sentence of this Act quoted in footnote 4 on the preceding page.

"... we are of opinion that this special act of congress does not, and was not intended to interfere with rights of property before acquired; but that it leaves them as they stood during the extension under the general law [relating to extensions]."

Accordingly, the injunction sought by the patent owner was denied. The Court's reference to the effect of a sale, which petitioner quotes,¹ was merely by way of repeating the reason, given in *Wilson v. Rousseau*, *supra*, for the holding that the last sentence of Section 18 of the Statute of 1836 applied to ordinary (unrestricted) purchasers of machines during the original term of the patent, but not to territorial assignees or grantees of the patent. The Court's entire statement in this regard (of which petitioner has quoted only the last paragraph) is as follows (p. 549):

"Now, the act of 1836, in express terms, gives the benefit of the extension authorized by that law to the assignees and grantees of the right to use the thing patented to the extent of their respective interests therein. And under this provision it was decided, in the case of *Wilson v. Rousseau*, 4 Howard 688, that the party who had purchased and was using this planing machine during the original term for which the patent was granted, had a right to continue the use during the extension. And the distinction is there taken between the grant of the right to make and vend the machine, and the grant of the right to use it.

"The distinction is a plain one. The franchise which the patent grants, consist altogether in the right to exclude every one from making, using, or vending the thing patented, without the permission of the patentee. This is all that he obtains by the patent. And when he sells the exclusive privilege of making or vending it for use in a particular place, the purchaser buys a portion of the franchise which the patent confers. He obtains a share in the monopoly, and that monopoly is derived from, and ex-

¹ Brief, page 17.

exercised under, the protection of the United States. And the interest he acquires, necessarily terminates at the time limited for its continuance by the law which created it. The patentee cannot sell it for a longer time. And the purchaser buys with reference to that period; the time for which exclusive privilege is to endure being one of the chief elements of its value. He therefore has no just claim to share in a further monopoly subsequently acquired by the patentee. He does not purchase or pay for it.

"But the purchaser of the implement or machine for the purpose of using it in the ordinary pursuits of life, stands on different ground. In using it, he exercises no rights created by the act of congress, nor does he derive title to it by virtue of the franchise or, exclusive privilege granted to the patentee. The inventor might lawfully sell it to him, whether he had a patent or not, if no other patentee stood in his way. And when the machine passes to the hands of the purchaser, it is no longer within the limits of the monopoly. It passes outside of it, and is no longer under the protection of the act of congress."

This last paragraph must be construed with its context and in light of the provision of the statute which gave to those who had previously acquired "the right to use" a machine "the benefit of the renewal". As so construed, it is clearly confined to the effect of ordinary *unrestricted* sales, *as was subsequently held in Mitchell v. Hawley, 16 Wall. 544, upon which we rely.*¹ The statement has nothing to do with sales of the character with which we are here concerned, namely, sales accompanied by notice to the purchaser that he receives with the machine only a limited license to use it.

It should also be observed that the *Bloomer* case did not involve a sale of the patented machines but merely the license or "right to construct and use" those machines, as stated in the opinion.² Therefore, there was no occasion

¹ *Supra*, pages 16-19, 29.

² *Supra*, page 39.

for the Court to discuss the effect of such a sale and the statement made is in fact a *dictum*. Nor should it be forgotten that this was the first case in which the Court used the broad language upon which petitioner relies and that the decision was based on the express provision of the Act of 1836 that gave the benefit of patent extensions to all persons who had before acquired the "right to use the thing patented".¹

The two *Wilson* cases and the *Bloomer* case are the only cases relating to time of use, which petitioner mentions. Petitioner makes no reference in this connection to the decision of this Court in the only such case which is really pertinent, namely, *Mitchell vs Hawley*, 16 Wall. 544. And that case, which is the latest of the group, holds, as we have seen, that restrictions limiting the time of use of the device are valid and enforceable against a purchaser who is chargeable with knowledge of those restrictions. Moreover, as we shall see, in every subsequent case in which this Court has used the broad language, which originated under the special circumstances in the *Bloomer* case, that language was unnecessary to the decision.

2. Cases relating to Place of Use:

The first of these cases relied upon by petitioner is *Adams v. Burke*, 84 U. S. 453, 459. In that case a Boston manufacturer was a territorial assignee of the patent for a coffin lid, having acquired from the patentees "all the right, title, and interest which the said patentees had in the invention described in the said letters-patent, for, to, and in a circle whose radius is ten miles, having the city of Boston as a center" (p. 458). He sold

¹ It is of considerable interest to note that the statute itself appears to recognize the difference between mere ownership of a patented article and the right to use it because it gave the benefit of the patent extension to any one who had "the right to use the thing patented" quite irrespective of his title to the thing itself.

one of those coffin lids *unconditionally* to the defendant in Boston, as he, being the assignee of the patent for that territory, had a perfect right to do. Defendant used that lid outside of the ten mile limit and was charged by the patentees with infringement for so doing. Since the defendant had bought it without condition from an assignee who had the right to make such a sale, this Court refused relief to the patentee. The Court specifically held that the lid had been "lawfully made and sold" (17 Wall. 453, 457). It is in the light of these facts that the following language quoted by petitioner¹ from this decision, must be construed:

"But, in the essential nature of things, when the patentee, or the person having his rights, sells a machine or instrument whose sole value is in its use, he receives the consideration for its use and he parts with the right to restrict that use. The article, in the language of the Court, passes without the limit of the monopoly." (Note particularly that the Court here cites both *Bloomer v. McQuewan* and *Mitchell v. Hawley*, *supra*.)

As so construed, it clearly applies only to *unconditional* sales. Otherwise, the Court would not have taken the pains at the end of its opinion (p. 457) to point out that—

"when they [patented devices] are once lawfully made and sold, there is no restriction on their use² to be *implied* for the benefit of the patentee or his assignees or licensees."

In the case at bar, we are not dealing with *implied* restrictions but with *express* restrictions of which the purchaser is notified at the time of the sale.

¹ Brief, page 18.

² The word *use* is italicized in the original, but the word *implied* is not.

Hobbie v. Jennison, 149 U. S. 355, referred to by petitioner at page 18 of its brief, involved substantially the same state of facts and the same question as *Adams v. Burke*, *supra*. The only difference was that in this case the suit was brought against the territorial assignee rather than his vendee. The decision of the Court was the same. Since the territorial assignee had absolute title to the patent for his particular territory, it was held that he could sell the patented articles in that territory without imposing any restrictions upon the place where the purchaser might use them, and that he could do so even if he knew that the purchaser intended to use them outside of that territory. This defendant's right to vend in his particular territory, being unrestricted, is to be distinguished from the right to vend "for use in a particular place", to which this Court referred in *Bloomer v. McQuewan*.¹

This *Hobbie v. Jennison* decision is of particular interest because of the Court's comment (pp. 363, 364):

"It is easy for a patentee to protect himself and his assignees, when he conveys exclusive rights under the patent for particular territory. He can take care to bind every licensee or assignee, if he gives him the right to sell articles made under the patent, by imposing conditions which will prevent any other licensee or assignee from being interfered with. There is no condition or restriction in the present case in the title of the defendant."

This would seem to indicate very definitely that it is possible to impose effective restrictions upon the use of a patented device, at the time of its sale.

Keeler v. Standard Folding Bed Co., 157 U. S. 659, which is cited and quoted from at page 19 of petitioner's brief, is on all fours with *Adams v. Burke*, *supra*, and need not be discussed separately. The defendant had purchased the patented articles, *free from restrictions*, from a territorial assignee who *had the right to make such a sale*. Therefore, those articles had passed outside of the patent monopoly.

¹ *Supra*, page 40.

3. "Attempted Restrictions on Resale Prices and Use":

Under this heading, petitioner¹ groups the decisions of this Court in *Bauer v. O'Donnell*, 229 U. S. 1;² *Straus v. Victor Talking Machine Co.*, 243 U. S. 490;³ *Boston Store v. American Graphophone Co.*, 246 U. S. 8,⁴ and *Motion Picture Patents v. Universal Film Mfg. Co.*, 243 U. S. 502.⁵

Petitioner correctly says of the first three of these decisions that they "were concerned with the efficacy of attempted resale price restrictions". It is because they were concerned only with attempted restrictions of that particular character, that they are not pertinent here. As we have seen,⁶ the Court held in those cases that resale price restrictions were void as beyond the protection and purpose of the patent act and as against public policy. Where such a restriction, which is void *per se*, is the only one attempted to be attached to the sale of a patented article, the result is the same as if the sale had been unrestricted. An unlimited license is implied and the article passes outside of the patent monopoly. But this is not so where the restriction itself is a proper exercise of the patentee's exclusive rights, as is the restriction upon the use of the patented machine itself, with which we are concerned in this case. In none of the resale price cases did the Court have occasion to consider restrictions of this character and it did not do so.

At page 20 of its brief, petitioner quotes from the decision in the *Boston Store* case, 246 U. S. 8, 23, a portion of this Court's comment on the *Bauer v. O'Donnell* decision.

¹ Brief, page 19.

² *Supra*, pages 20, 33.

³ *Supra*, pages 32, 33.

⁴ *Supra*, page 33.

⁵ The old Circuit Court case of *Washing Mach. Co. v. Earle*, 29 Fed. Cas. 332 (Case No. 17,219), referred to by petitioner on pages 12 and 38 of its brief, is merely one of a number of similar cases, decided before this Court's decision in *Mitchell v. Hawley*, and involved an unrestricted sale by a licensee.

⁶ *Supra*, pages 32, 33.

In this quotation, petitioner omits the statement of the Court (p. 23, bottom):

"As the case dealt with the right to vend under the patent law, the Court reserved any express statement concerning the scope of the right to use conferred by that law."

That statement would seem completely to dispose of *Bauer v. O'Donnell* as a precedent for the instant case.

Concerning the *Motion Picture Patents* case, petitioner says (p. 19) that it was concerned "with attempted limitations on use" (italics petitioner's). That is true only in a very broad sense, for as we have seen, the restrictions there involved related *not* to "the use of the [patented] machine itself", but to "the use of the supplies only", and specifically to the use of films which were not covered by the machine patent in suit but by a separate, *expired* patent. And it was upon the basis of that distinction, that the Court held those restrictions unenforceable under the patent law.¹

In reference to the *Motic. Picture Patents* decision, this Court did say, in its *Bosto. Store* decision, 246 U. S. 8, 25, as quoted by petitioner (p. 21):

"Reiterating the ruling in the two last cases [referring to *Bauer v. O'Donnell* and *Straus v. Victor Talk-*

¹ Petitioner's partial quotation from the *Motion Picture Patents* case at the top of page 29 of its brief might perhaps be misleading. Petitioner there states that in that decision the Court held "that its previous decision in *Bauer v. O'Donnell* had interpreted the exercise of the right to vend, as freeing the article 'of every restriction which the vendor may attempt to put upon it' (*Motion Picture Patents* case, 243 U. S. 502, 516)". Petitioner should have started its quotation earlier, for what the Court actually said was that in *Bauer v. O'Donnell*, it had declared that (p. 516):

"the right to vend is exhausted by a single, *unconditional* sale, the article sold being thereby carried outside the monopoly of the patent law and rendered free of every restriction which the vendor may attempt to put upon it." (Emphasis ours.)

ing Machine Co.] it was again decided that, as by virtue of the patent law, one who had sold a patented machine and received the price, and had thus placed the machine so sold beyond the confines of the patent law, could not, by qualifying restrictions as to use, keep under the patent monopoly a subject to which the monopoly no longer applied."

The "subject to which the monopoly no longer applied", mentioned in the last two lines of this statement, clearly has reference to the films (supplies), the patent upon which had expired, but which the plaintiff was attempting to monopolize under the unexpired patent upon the machine. The statement that the Court had held in the *Motion Picture Patents* decision that one who had sold a patented machine "had thus placed the machine so sold beyond the confines of the patent law", is, we believe, inaccurate. If, at the time of that decision, the Court had been of *that* view, it certainly would not have gone to such pains in that decision to explain that (p. 512) —

"The difference is clear and vital between the exclusive right to use the machine which the law gives the inventor and the right to use it exclusively with prescribed materials to which such a license notice as we have here seeks to restrict it",

and it would not have held the restrictions there involved (p. 518) —

"invalid because such a film is obviously not any part of the invention of the patent in suit."

And, of course, the *Boston Store* case did not require any ruling upon the validity of restrictions upon the use of the patented machine, for it was concerned only with restrictions attempting to fix resale prices.

¹ *Supra*, page 35.

The last of the cases cited by petitioner in support of its position,¹ is *United States v. General Electric Company, et al.*, 272 U. S. 476, 489, where this Court again repeated the broad statement of the earlier cases. This case did not involve any question relating to the validity of restrictions imposed at the time of the sale. The restriction there in controversy was one contained in a license granted by a patentee to a manufacturing licensee fixing the price at which the latter could sell patented articles made by it under the license. The Court held that restriction *valid*, specifically reaffirming the doctrine of *Bement v. National Harrow Co.*, 186 U. S. 70.²

With regard to each of the decisions of this Court, from which petitioner quotes broad language in attempted support of its position, we might say, as this Court did of a case cited by one of the litigants in *Plumley v. Massachusetts*, 155 U. S. 461, 474:

"It is sufficient to say * * * that it did not in form or in substance present the particular question now under consideration."

Similarly, in *Tyson v. Banton*, 273 U. S. 418, 433, this Court said:

"There is some general language in the [cited] opinion which, superficially, might seem broad enough to cover cases like the present one. It was said, for example (p. 126): 'Property does become clothed with a public interest when used in a manner to make it of public consequence, and affect the community at large.' Literally, that would include all the large industries and some small ones; but in accordance with the well settled rule the words must be limited to the case under consideration."

The broad language which petitioner quotes from this Court's decisions is substantially the same as that used

¹ Brief, page 33.

² *Supra*, page 25.

³ Other cases to the same effect include *Cohens v. Virginia*, 5 U. S. 82, 97, 98; *Weaver v. Palmer Bros. Co.*, 270 U. S. 402, 414; *Home Bldg. & Loan Ass'n v. Blaisdell*, 290 U. S. 398, 434.

by *Robinson on Patents*, Sec. 824,¹ in stating that the usual sale of a patented article "delivers it from all the restrictions of the patent".

But Robinson adds, as this Court did, in effect, in *Mitchell v. Hawley*,² and as it might well have done in the decisions cited by petitioner had it been considering conditional or restricted sales, as well as unconditional ones:

"To have that effect, however, the sale must be a lawful and *unconditional* sale."

And he then proceeds to point out that—

"any person having the right to sell may at the time of sale restrict the use of his vendee within specific boundaries of time or place or method, and these will then become the measure of the implied license arising from the sale."

That, we believe, is the true rule.

This Court has never held otherwise with respect to restrictions *upon the use of the patented device itself*. And it has held restrictions, limiting the *time* of their use, valid and enforceable. *Mitchell v. Hawley*, 16 Wall. 544.² We believe that on the same reasoning, and under the same general rule, reasonable restrictions on the *field* of use, such as that in the case at bar, should be upheld.

Other Authorities Cited by Petitioner:

On page 30, petitioner quotes all of the following quotation from the 1937 Edition of Williston on Contracts, Volume 5, paragraph 1647, pages 4630-31, *except* the next to the last sentence which we have put in italics:

"* * * It seems, indeed, to have been *suggested* by the Supreme Court of the United States, that as to patented articles there is an inherent inconsistency in selling property and imposing a restriction on the

¹ *Supra*, page 26.

² *Supra*, pages 16-19, 38.

³ *Supra*, pages 16-19, 38.

buyer.¹⁴ This can only mean, however, that the patent laws give no protection to restrictive promises exacted from a buyer and that they must stand or fall under the common law as if the article was unpatented. *Probably this depends on whether such a contract or condition is part of a scheme to obtain a monopoly wider than that of the patented article.*¹⁵ Certainly this result cannot be achieved by mere notices on patented articles.¹⁶

In note 15 Williston cites *Carbice Corp. v. American Corp.*, 283 U. S. 27. And, in note 16, he cites, in addition to the *Carbice* case, *Straus v. Victor Talking Machine Co.*, 243 U. S. 490, and the *Motion Picture Patents* case, 243 U. S. 502.

As Williston says in note 15, the *Carbice* case holds that a patentee cannot lawfully exact as a condition of a license that *unpatented* materials used in connection with the invention shall be purchased exclusively from him, and that, therefore, one supplying such *unpatented* accessories to the licensee to be used in disregard of the condition is not liable as a contributory infringer. Thus, it clearly appears from the complete quotation from Williston that he is of the opinion that there is nothing inconsistent in "selling property and imposing a restriction on the buyer", and he believes that restrictions which are within the patent monopoly and not "part of a scheme to obtain a monopoly wider than that of the patented article" as in the *Motion Picture* and *Carbice* cases, are valid and enforceable.² It is perhaps unnecessary to state that petitioner's partial quotation from this authoritative work is misleading in the extreme. In the same chapter

¹ Note that Williston does not say that this Court has held this, but only that it has "suggested" it; also, that Williston cites in his note 14 *Boston Stores v. American Graphophone Co.*, 246 U. S. 8, which, as we have seen (*supra*, pp. 45-46) involved a resale price restriction.

² On page 11 of its brief, petitioner is at great pains to create the impression that the patented amplifier here involved is "a standard article of commerce" such as was the solid carbon dioxide sought to be restricted in the

of Williston's work (paragraph 1642 which precedes the paragraph from which petitioner quotes) Williston deals generally with restrictions accompanying the sale of property. He says on page 4603:

"... Similarly, a buyer may make a reasonable contract restricting himself from using the property which he has bought in a way which would compete with the seller, or be obnoxious to him."

and cites numerous cases in support thereof. And again, on pages 4604 and 4605, Williston states:

"The only limits imposed by the law on the owner of property restricting his power to exact contracts from a subsequent purchaser to refrain from using the property in a certain way are those imposed by public policy, and though public policy forbids unreasonable restraint of trade, and therefore forbids a system of contracts attempting to control prices on resale, *there seems no reason why it should prohibit contracts which reasonably protect a business of either buyer or seller without tending to affect the public injuriously by monopoly or enhancement of prices.*"¹

Carbice case. The solid carbon dioxide was, of course, not patented and was well known. All that petitioner is really saying is that the patented amplifiers here involved have been extensively used, as it has elsewhere admitted.

¹On page 14 of its brief, petitioner makes the suggestion that the decision below would, for example, enable a patentee to prevent the owner of a patented pocket lighter from using it for lighting cigars while permitting its use for lighting cigarettes. As to this, it is perhaps enough to say that the use is the same and, what is more, the restriction would be wholly unreasonable and capricious. As Williston makes clear, even at common law where no statutory monopoly is involved, it is only reasonable restrictions which will be enforced, such as those in the present case, "which reasonably protect a business of either buyer or seller without tending to affect the public injuriously or enhancement of prices". See also *Fred Waring v. WDAS Broadcasting Station, Inc.* (Pennsylvania Supreme Court) 35 U. S. P. Q. 272, *infra*, page 61.

Also, on page 30 of its brief, petitioner quotes two short sentences from page 1002 of Professor Chafee's scholarly article of nearly one hundred pages on *Equitable Servitudes on Chattels* in 41 *Harvard Law Review* 945. We commend this article to the Court, and suggest that it establishes a very strong case for the enforcement of reasonable restrictions, such as that involved in the present case, on the use of chattels.

Again on page 30 of its brief, petitioner quotes the following sentence from Section 347 of *Walker on Patents*, 6th Edition:

"But the purchaser of a patented apparatus, from the owner of the patent thereon, acquires whatever right that patent covers, to use that apparatus in accordance therewith, even where it is capable of a different use,²² and by such sale the apparatus is thereby rendered free of every restriction which the patentee may attempt to put upon it.^{22a}"

Walker cites in note 22 only the case of *Edison Electric Light Co. v. Peninsular Co.*, 101 Fed. 831 (C. C. A. 6), in which, as clearly appears from the opinion, the sale of the apparatus was *without reservation of any kind*. Petitioner omits any reference to this case in the quotation in its brief. In note 22a, Walker cites, as petitioner indicates, *Straus v. Victor Talking Machine Co.*, 243 U. S. 490 and the *Motion Picture Patents* case, 243 U. S. 502, which, as we have seen, involved, respectively, restrictions on the resale price of the article sold and on unpatented supplies. Petitioner omits to quote the following sentence which appears earlier in the same paragraph in Walker:

"Nor does a sale, coupled with an express license to use, give any right to use after the license has been forfeited or has expired." The purchaser of a patented thing gets no other right to use it than such right as the seller had an express or an implied right to convey.¹⁸

In note 17 Walker cites the case of *Porter Needle Co. v. National Needle Co.*, 17 Fed. 536, to which we have

previously referred¹ and in which the use of certain patented machines, which had been sold conditioned upon payment of royalty up to a certain date, was thereafter enjoined, since no agreement concerning royalties had been made after the expiration of the stipulated period. And in note 18, Walker cites *International Pavement Co. v. Richardson*, 75 Fed. 590, 594, in which the defendant was enjoined from using or disposing of certain patented machines the title to which he had acquired by sale from a licensee, the defendant having failed to pay the reserved royalty to the patentee.

There is nothing inconsistent between the sale of of a patented device and the simultaneous grant of a restricted license limiting its use to a particular field:

It is, of course, clearly established that the ownership of a *patented* device is entirely distinct from the right under the patent to sell or to use that device, and does not, *per se*, imply any such right. We have already referred to the statement of this Court in *United States v. General Electric Co., et al.*, 272 U. S. 476, 490, that the holder of a license to make and use the patented devices but not to sell them, *owns* the devices made under that license and may use them, but that—

“* * * if he *sells* them, he infringes the right of the patentee, and may be held for damages and enjoined” (*supra*, p. 13).

Concerning the right of use, Judge Nixon said in *Wortendyke v. White*, 2 B. & A. 25, 28:

“Confusion on this subject, has, doubtless, arisen from not distinguishing between the ownership of a patented machine and the right to use it. The one does not always include the other.”

An ordinary infringer has title to the machine which he has made or acquired, but he may be enjoined from using it.

¹ *Supra*, page 31.

Similarly in *Belknap v. Schild*, 161 U. S. 10, it was stated (p. 24):

"Title in the thing manufactured does not give the right to use the patented invention. . . ."

To illustrate the application of this principle, we shall take the case of a patentee who has a patent for an amplifier, and who is engaged in the business of supplying amplifiers of his patent to theatres for use in talking picture equipment. Under the patent laws this patentee has the right "to exclude everyone from making, using or vending the thing patented, without . . . [his] permission". *Bloomer v. McQuewan*, 14 How. 539, 549.¹ He is unwilling to permit anyone to use the patented invention in the theatre field upon any terms. However, for a reasonable consideration, he is willing to permit the patented amplifiers to be used in homes, where they will not interfere with his theatre supply business.

There are several ways in which this patentee can permit another to use one of the patented amplifiers in his home, and still retain the right under the patent to enjoin as an infringement the use of that amplifier in a theatre.

One way is for him to license the prospective user for a lump sum, to make one of the patented amplifiers and to use it in his home only. The licensee will own the amplifier which he makes under this license. But, as pointed out above, the ownership does not carry with it any right to use the patented thing. The right to use it comes solely from the license to use, and is restricted to the terms of that license. Therefore, if the owner uses the patented amplifier outside of the terms of that license (for example, in a theatre) he is liable as an infringer. We think that there can be no dissent from this proposition.

Another way in which the patentee can accomplish the same result is to license the prospective user, again for a lump sum, to have one of the patented amplifiers made

¹ *Supra*, page 12.

for him by some third person, and to use that amplifier in his home only. The same principle would apply, as before, and again the patentee's right to hold the licensee liable as an infringer, if he exceeded the restrictions of his license to use, could not be questioned.

But suppose that the licensee, instead of making the amplifier which he is to use under his license, or having some third party make it for him, desires to purchase it from the patentee himself, and that the patentee is willing to sell it to him. There would appear to be no reason why the patentee, for a lump sum, could not grant the licensee a restricted license to use one of the patented amplifiers only in his home, and at the same time convey to him the amplifier to be used under that license, without sacrificing his right to enforce the restrictions of the license. Surely, the carefully restricted express license which the patentee granted and the licensee accepted, should not be denuded of its restrictions merely because title to the vehicle for the enjoyment of that license happened to pass from the patentee to the licensee, instead of from some third person to the licensee, with the patentee's permission.

It is true that in such a transaction, the patentee would have received full consideration for everything that he had sold, that is, full consideration for the restricted license that he granted and, we will assume, a reasonable manufacturing profit upon the amplifier itself. But he would not have sold a license to use the amplifier in a theatre, and he would not have received any consideration for such a license! As was said in *Porter Needle Co. v. National Needle Co.*, 17 Fed. 536, 537,¹

"the mere value of a patented machine is often
 • • • insignificant in comparison with the value of
 its use."

Furnishing the patented amplifiers to theatres was this patentee's livelihood and he was unwilling to grant

¹ *Supra*, page 31.

to anyone for any consideration any right under his patent, which would interfere with that business. If he had been willing to fix any terms upon which he would permit others to use the patented amplifiers in that field, undoubtedly those terms would have involved a very much greater payment than the one he accepted for the license for home use only. Clearly the receipt by the patentee of the consideration he asked for permitting a *specified restricted use* of his patented device should not be interpreted as consideration for permitting any and every use of it.

The transaction which we have just described as comprising the grant of a restricted license to use a patented device only in a specified field, and the simultaneous sale to the licensee of a device to be used under the license, differs in form only, from the transaction which petitioner says gives the purchaser an unrestricted license, namely, the sale by a patentee of one of his patented devices with notice brought home to the purchaser that he is licensed to use it only in a specified field. In the latter case, as in the former, there would appear to be no sound reason why the restricted character of the license granted should be affected in any way by the circumstance that the grant is accompanied by the sale of the patented device.

Ownership of a patented device is not inconsistent with the possession by the owner of only a restricted right to use that device. The mere fact that the ownership was acquired from the patentee, should not make it so. And, as we have seen, the authorities hold that it does not.

If the restrictions are not in themselves void as against public policy—and reasonable restrictions upon the field of use of the patented machine itself clearly are not because they are *within* the monopoly granted to the patentee—they are enforceable under the patent law against a purchaser with notice of them.

The restrictions involved in the present case are not contrary to public policy:

The argument of public policy, upon which are based the decisions of this Court regarding attempts to fix resale prices or to extend the scope of a patent monopoly beyond the statutory grant by compelling the purchaser of the machine to buy his supplies from the patentee, has no application whatever to restrictions of the sort here involved.

Obviously there is no public policy which requires the owner of a patent to allow others to use the patented invention itself against his will in any field.⁶

"If he [a patentee] sees fit, he may reserve to himself the exclusive use of his invention or discovery. If he will neither use his device nor permit others to use it, he has but suppressed his own . . . his title is exclusive, and so clearly within the constitutional provisions in respect of private property that he is neither bound to use his discovery himself nor permit others to use it." *Paper Bag Patent Case*, 210 U. S. 405, 425, quoting from *Bement v. National Harrow Co.*, 186 U. S. 70, 90.

Particularly is there no public policy which prevents a patentee from restricting the use of the patented devices sold by him to specified fields, so as to preserve his right to the exclusive enjoyment³ of his invention in the field which he is himself cultivating—in this case the field of commercial talking motion pictures. We have already pointed out that public policy should favor the enforceability of such restrictions.¹

The circumstances surrounding the granting of the license in this case to American Transformer Company, under the patents here in suit (and others), are illustrative of this point.

As is true of many inventions, the inventions of the patents in suit are useful for many purposes and in a number of fields. We have previously referred to the extensive

¹ *Supra* page 23.

development work done by the Telephone Company and the Western Electric Company beginning in 1912 when the electronic tube became available to them. This work was carried on at great expense as was also the similar intensive development work of the General Electric Company and its associated companies. As usually occurs in the early development of any new art, conflicting rights arose which made it impossible as a practical matter to develop the new art commercially without infringing valid patents adversely held. Therefore, in order to make fully available to the public the great benefits of the new art it was necessary for the companies, which had made the major contributions to the art, to enter into a license arrangement permitting each to use in its own business field or fields the inventions of the others. Consequently, the cross license agreement¹ between the Telephone Company and the General Electric Company was entered into in July, 1920, and certain rights thereunder were extended,² to the Western Electric Company, and the Radio Corporation of America, the latter company having been formed in the meantime to engage primarily in the business of radio communication for tolls.³

As appears from these agreements, each party granted rights under its patents to the others in certain specified fields only, the restrictions being necessary to protect the business of each licensor in its own particular business fields.

For example, Schairer, Vice President of the Radio Corporation, testified that⁴ his company was unwilling to grant licenses or to sell apparatus for use in the business of radio communication for tolls which was a new business and the principal business for which the Radio Corporation was formed.

The only practical way to make the apparatus available to the public for amateur and experimental purposes, such for example as broadcast reception, was to sell it with restrictions on its use at a relatively low price, the

¹ III, 1328.

² III, 1356.

³ I, 515.

⁴ I, 515 to 517.

return from which was in no way commensurate with the benefit which the purchaser would receive if he were permitted to use the apparatus for commercial purposes, such as wire or wireless telephony for tolls, talking motion pictures in theatres for profit, etc.¹

Because of this situation, it was provided in the agreement of July, 1920 between the Telephone Company and the General Electric Company,² as follows:

"4. Each party agrees that, so far as it is enabled so to do, it will in disposing of devices embodying inventions pertaining or applicable to vacuum tubes, or to generating, modifying, amplifying, transmitting or receiving electro-magnetic waves, or other devices or material the unrestricted sale of which would deprive the other party of rights to which it is entitled hereunder, use such precautions by contracts, restricted licenses or otherwise as may be necessary or advisable in order to prevent its customers or others from acquiring (by acquisition of devices from it or otherwise) licenses to use the same which the party disposing thereof has no right to grant."

This provision was also included in the modification of the same agreement entered into in July, 1926,³ and in the later substitute agreement of July 1, 1932⁴ which was approved by the Government in the settlement of the Government suits (*United States of Am. v. Radio Corp. of Am. et al.*). The stipulation approved by the Government states:⁵

"The petitioner, by its Department of Justice, has examined all of the Agreements attached hereto, and also the above-mentioned Substitute License Agreement (B2) and Agreements Relating Thereto, and finds no objection to them."

This Agreement (B2), thus approved by the Government, contains a number of provisions granting licenses

¹ I, 516.

² III, 1347, Article VI, Par. 4.

³ III, 1404, Article VI, Sec. 4.

⁴ II, 784, Article VII, Sec. 4.

⁵ II, 796.

restricted to various fields of use,¹ as has been stipulated is "common practice where a patented invention is applicable to different uses."²

The restricted licenses, contained in the contracts to which we have referred above, made possible the commercial development of radio broadcasting and broadcast reception in the home, etc. The Radio Corporation entered that field about 1919 and, since that time, has granted many licenses for the manufacture and sale by others of broadcast receivers, employing the inventions of the patents in suit. It was in keeping with its policy of developing and improving radio broadcast receivers, that the Radio Corporation, with the consent of the Telephone Company, in 1927 granted about thirty licenses³ to different manufacturers, limited to the right to make amplifiers embodying these patents and to sell them "only for radio amateur reception, radio experimental reception, and radio broadcast reception".⁴ One of these was the license granted to American Transformer Company, the vendor of petitioner's amplifiers (*id.*).⁵

If petitioner's argument is sound, then such limited licenses, restricted as to fields of use, can no longer be safely made; and a patentee having an important invention useful in many fields but having vital interests to protect in one field, can no longer sell or allow others to

¹ II, 743.

² Stipulation, I, 585, *supra*, page 9.

³ I, 333-335.

⁴ III, 1415.

⁵ Petitioner refers on page 14 of its brief to the cases of *Stanley Co., General Talking Pictures Corp., and Duovac Radio Corp. v. Am. Tel. & Tel. Co. et al.*, 4 F. Supp. 80, on motion for preliminary injunction; and 18 F. Supp. 650, at final hearing. The preliminary injunction was never issued, and at final hearing a permanent injunction was refused. The only appeal which was filed by the plaintiffs was that of the petitioner here, General Talking Pictures Corp. Although its appeal was filed on July 13, 1937, it has never been perfected by printing or filing the record.

sell the patented devices for use in other fields, for, as soon as he does so, he exposes his own vital field to competition by others in the use of his own invention. The public, as well as the patentee, would suffer great damage by any such ruling.

Assume the case where a patented machine is sold by the patentee to a college laboratory with a condition that it should be used only for experimental purposes. Surely, it cannot be successfully contended that such a sale, made upon the express condition that the patented machine was not to be used commercially, gives the purchaser by law the unrestricted right to use the machine commercially in defiance of the restriction. If that were the law no such sale could be made at any reasonable price. Yet that, in substance, is what petitioner is contending in this case.

In short, to sustain the proposition for which petitioner contends, and to hold that a patentee cannot convey with the sale of his patented device, an effectively restricted license limiting the purchaser's right to use that device to specified fields, would be to subvert principles of patent law which have been universally accepted as true from the very beginning of our patent system, which have been sanctioned by many court decisions, and upon which, as a basis, innumerable patent licenses have been and are every day being granted.

There is no public policy, and no principle of law which compels or warrants any such ruling as that now asked by petitioner; and there is no decided case which, properly read, supports any such ruling.

The recent decision by the Pennsylvania Supreme Court in *Fred Waring v. WDAS Broadcasting Station, Inc.*, 35 U. S. Patent Quarterly 272:

This case, which was decided October 8, 1937, is of interest both because of its facts and the court's decision on those facts, and also because of the court's comments upon certain of the decisions of this Court which are relied upon by petitioner in the instant case.

In the cited case, Fred Waring's popular orchestra, the "Pennsylvanians", commanded sizable fees for its rendition over the radio of dance music and the like. It also made phonograph records of its rendition of such selections. These were sold to the public, marked "Not licensed for radio broadcasts". The defendant purchased one of these records. It had a license from the copyright owner to perform for profit the copyrighted selection in question. It did so by broadcasting the record of Waring's rendition of that selection. Waring brought suit to enjoin defendant's doing this. The injunction was granted by the lower court and its decision was affirmed by the Supreme Court of Pennsylvania. The ground adopted by the latter court was that Waring had a property right in his rendition of the selection in question, which was distinct from the rights of the owner of the copyright in the selection itself, and that in broadcasting that rendition from the record, the defendant was competing unfairly with Waring who was in the business of broadcasting that rendition for profit. It held that the "equitable servitude", in the form of restrictions which the license notice placed upon the use to which the record could be put after its sale, was proper and equitable under the circumstances and that the restrictions were enforceable at common law. The following comment of the court is of particular interest here (pp. 277, 278):

"* * * The most common type of case in which such restrictions have been held unenforceable is where an attempt was made by a manufacturer or the owner of a patent, trade mark or copyright to fix a minimum resale price: *Taddy & Co. v. Sterious & Co.*, 1 Ch. (1904) 354; *McGruther v. Pitcher*, 2 Ch. (1904) 306; *Bobbs-Merrill Co. v. Straus*, 210 U. S. 339; *Park & Sons Co. v. Hartman*, 153 Fed. 24; *Dr. Miles Medical Co. v. Park & Sons Co.*, 220 U. S. 373; *Bauer v. O'Donnell*, 229 U. S. 1; *Straus v. Victor Talking Machine Co.*, 243 U. S. 490; *Boston Store of Chicago v. American Graphophone Co.*, 246 U. S. 8; *Garst v. Hall & Lyon Co.*, 179 Mass. 588; *Garst v. Wissler*, 21 Pa. Superior Ct. 532, or where there was

a provision that the article sold should be used only in connection with other property manufactured by the vendor: *Motion Picture Patents Company v. Universal Film Manufacturing Co.*, 243 U. S. 502; *Carbice Corporation of America v. American Patents Company v. Universal Film*, 283 U. S. 26. These cases depend essentially upon the fact that the attempted restrictions, being in restraint of trade, were against public policy, . . .

" . . . It is true that in addition to the question of public policy other factors may weigh against the imposition of such restrictions in many, perhaps most, instances. Thus an attempted restriction, instead of being aimed at the accomplishment of a useful commercial, industrial or social purpose, may be merely capricious and serve only to clog the free and untrammelled circulation of personal property. Again, in the case of some restrictive covenants limiting the use of chattels, it might be difficult, if not impossible, to detect breaches so as to make legal enforcement practical. There is no reason, however, why an ancient generalization of law should be held invariably to apply to cases in which modern conditions of commerce and industry and the nature of new scientific inventions make restrictions highly desirable. *Mere aphorisms should not be permitted to fetter the law in furthering proper social and economic purposes.*"¹

¹ The Court's attention is also called to the case of *Waterson et al. v. Irving Trust Co.*, 48 F. (2d) 704, (C. C. A. 2), decided since the present case was brought, in which the court below held that certain music copyrights, after sale by a trustee in bankruptcy, were still subject to the composers' reserved rights to royalties. The authorities relating to equitable servitudes on chattels are extensively reviewed in the opinion by Judge A. N. Hand and numerous instances are cited of restrictions on the use of chattels which have been enforced by the courts. The opinion states (p. 708):

"Courts in the United States have enforced rights resembling an equitable servitude binding on a third party who has acquired personal property from one who is under a contract to use it for a particular purpose or in a particular way" (Citing numerous cases)."

So, in the instant case, the oft repeated saying that the sale of a patented article frees it from the patent monopoly, should not be permitted to destroy reasonable restrictions upon the field of use of such articles where, as in the case at bar, those restrictions are clearly within the monopoly of the patent law, are not in their nature illegal or unreasonable, but serve a proper and desirable economic purpose.

It should not be forgotten that we are here dealing with a statutory grant, the extent of which must be determined from the statute itself as has been made clear by this Court in many decisions, including the *Motion Picture* case, *supra*, and *Dr. Miles Medical Co. v. Park & Sons Co.*, 220 U. S. 373, 401-402. Thus, even if it were true at common law—and it is not as we have seen—that after sale no restriction of any nature on unpatented personal property would be enforced, that would not control this patent case. Assuming the restriction upon a patented device is not unreasonable, the sole and only question is whether the restriction is within the statutory grant of the exclusive right to use. In addition to its holding in *Mitchell v. Hawley* (that restrictions on time of use of a patented machine are valid) this Court has recently indicated, if it has not actually held, in the *Motion Picture* case, *supra*, that restrictions which are on the use of the patented device itself are within the monopoly granted by the statute. It would therefore seem clearly to follow that this question should be answered in the affirmative.

We submit that on principle and authority, reasonable restrictions upon the field of use of a patented device sold under the patent, are valid and enforceable under the patent law as against a purchaser with notice of the restrictions. Therefore, petitioner would be an infringer even if the sale of the patented amplifiers to it had been under the patents, instead of in infringement of the patents.

PART II.**Respondents are not estopped by acquiescence to hold petitioner liable as an infringer.**

Petitioner's asserted defense of estoppel by acquiescence, to which this part of our brief is directed, does not involve any question or ground put forward in the petition as a reason for the granting of the writ. Therefore, as we have said, we doubt that this Court will wish to consider it at all, particularly in view of the concurring decisions of the lower courts overruling it.¹

Petitioner's specification of error in this regard is that the Circuit Court of Appeals erred—

“(4) In failing to hold that by the acceptance and retention, by plaintiffs-respondents' authorized agent, of the royalties paid by the licensed manufacturer of the alleged infringing devices, plaintiffs-respondents were barred, under the equitable principles of acquiescence and estoppel, from maintaining this suit.”

This defense is wholly without factual basis. The pertinent facts established by the record and found by the courts below are (1) that these infringement suits were brought promptly (less than five months) after respondents first learned that petitioner had acquired and leased one of the amplifiers in question for use in a theatre; (2) that prior to the institution of these suits, neither respondents nor their licensing agent had received any royalties from the Transformer Company, with knowledge that they applied to amplifiers sold to petitioner; and (3) that all royalty payments made by the Transformer Company, whether before or after the filing of the suit, which were found to apply to amplifiers sold to petitioner, were refunded to the Transformer Company and accepted by it.

¹ *Supra*, page 7.

Concerning the respondents' promptness in bringing suit, the District Court found:¹

"The defendant made its first purchases of these amplifiers in the month of February, 1929, nearly five months after its incorporation. Thereafter the defendant leased a complete talking motion picture equipment, which included one of these amplifiers, to a theatre in Allentown, Pennsylvania, where the equipment was installed during the month of April. On the 19th day of that month, the plaintiffs' investigators examined the equipment in order to ascertain the precise facts with reference to the operation of the various circuits and whether the plaintiffs' patents were involved. This was a substantial task and a report, based upon the studies, was not completed until some time during the month of July, 1929, and by the end of August the executive officers authorized the institution of this suit; these several bills were filed September 13th [1929].

"* * * There is no plea of laches made for the defendant and consequently there is no necessity for making a finding on the subject. If there were, it would be in the negative."

Concerning royalties, the District Court found:²

"There is nothing in the evidence which tends to show that the plaintiffs [respondents], or their licensing agent, the Radio Corporation, prior to the filing of these suits, received royalties from the American Transformer Company, with knowledge that they were paid on account of sales of amplifiers to the defendant, which had been made contrary to the terms of the license, and for use of the devices in violation of the notice attached to them."

"The evidence shows that during the month of December, 1929, three months after these suits were filed, the American Transformer Company, pursuant to request, began to furnish to the Radio Corporation lists of its customers (including this defendant) to whom amplifiers had been sold, and that, one year

¹ III, 1638.

² III, 1646.

later, the royalty payments which applied to the defendant's purchases were returned to and accepted by the licensee."¹

Accordingly, the District Court dismissed this defense. The Circuit Court of Appeals, after referring to the fact that no royalties upon petitioner's amplifiers were knowingly received by respondents or their agent before the filing of these suits, said:²

"* * * it is difficult to see how later royalties can act as either acquiescence or estoppel since the very maintenance of the suit shows defendant that there was no acquiescence on which it could rely."

Then, after referring to the return of these later royalties to the Transformer Company and the latter's acceptance of them, and to the fact that respondents had filed these suits within five months after learning of the infringement, that court concluded (*id.*), as the District Court had done:

"This defense is without merit."

Argument.

The rule applicable to defenses of this character, is well stated in *Miller v. Hayman*, 46 F. (2d) 188, 197, where it is said:

"* * * as estoppels preclude a party from showing the truth, they are not favored and should not be applied to any case where the facts do not clearly justify their application."

That the facts in this case do not support any such defense, is obvious from the facts themselves, as found by both of the courts below.

¹ III, 1645.

² III, 1725.

For the law upon the question of what facts are necessary to justify the application of the doctrine of estoppel, we need go no further than the decision of this Court in *Brant v. Virginia Coal & Iron Co., et al.*, 93 U. S. 326, from which petitioner also quotes a passage. In that decision it was said (pp. 335, 336):

"It is difficult to see where the doctrine of equitable estoppel comes in here. For the application of that doctrine there must generally be some intended deception in the conduct or declarations of the party to be estopped, or such gross negligence on his part as to amount to constructive fraud, by which another has been misled to his injury. 'In all this class of cases,' says Story, 'the doctrine proceeds upon the ground of constructive fraud or of gross negligence, which in effect implies fraud. And, therefore, when the circumstances of the case repel any such inference, although there may be some degree of negligence, yet courts of equity will not grant relief. It has been accordingly laid down by a very learned judge that the cases on this subject go to this result only, that there must be positive fraud or concealment, or negligence so gross as to amount to constructive fraud.' 1 Story's Eq. 391. To the same purport is the language of the adjudged cases. Thus it is said by the Supreme Court of Pennsylvania, that 'the primary ground of the doctrine is, that it would be a fraud in a party to assert what his previous conduct had denied, when on the faith of that denial others have acted. The element of fraud is essential either in the intention of the party estopped, or in the effect of the evidence which he attempts to set up.' "

It is not even claimed by petitioner that it has made out a case of estoppel under this definition.

The excerpt which petitioner quotes from this same opinion states that even in the absence of fraud, actual or constructive, "where one has received the fruits of a transaction he is not permitted to deny its validity whilst retaining its benefits". Clearly that has no application here, for respondents *did not retain* any benefits of any transactions between the Transformer Company and petitioner. They did not knowingly even *receive* any

"royalties" upon those transactions prior to the filing of the present suits, and they returned *all* royalties which they ever received upon those transactions when they learned that they were such. It is a mere play upon words for petitioner to contend as it does that respondents' associate "retained" these royalties, within the meaning of the decision cited, when in fact they retained them only until they returned them to the Transformer Company.

Petitioner seeks to give the impression also, that neither the respondents nor the Radio Corporation ever objected to the Transformer Company's sale of the amplifiers in question to petitioner for theatre use. That is absolutely contrary to the fact.

In September, 1927, the Transformer Company wrote to the Radio Corporation asking whether its license might not be extended to permit it to sell patented amplifiers for this use.¹ The Radio Corporation replied in the negative.²

In the late summer of 1929, the Transformer Company was notified by the Radio Corporation that it was selling apparatus outside of the scope of its license.³ In September, 1929, these suits were brought against petitioner. And in December, 1930, the Transformer Company was notified in writing that:⁴

"The sale of apparatus for unlicensed uses is an infringement of the patents covering the apparatus. We must protest and insist upon immediate discontinuance of such sales for uses such as for public address systems or in connection with talking motion pictures.

"We also take this occasion to notify you that we reserve the right to take appropriate action against your company and/or your customers for infringement arising out of unlicensed manufacture, use and/or sale."

Under the circumstances of this case, where the only royalties ever received by respondents with knowledge

¹ II, 1213.

² I, 610, 611.

³ II, 1214.

⁴ II, 1217.

that they applied to the infringing amplifiers, were paid by the Transformer Company after that company had been notified of its infringement and after these infringement suits against petitioner had been brought, respondents might have retained those royalties without affecting their right to continue the prosecution of these suits. See *Vulcan Mfg. Co. v. Maytag Co.*, 73 F. (2d) 136 (C. C. A. 8), in which a similar defense was raised by a defendant-licensee who was sued for infringement for exceeding his license and where the royalties had *not* been returned. In that case, the court said (p. 141):

"Another matter strongly pressed by appellant is that royalties were accepted and retained upon the changed machines. This is true, but it is also true that appellee had a legal right to such royalties; the question here being whether its acceptance and retention thereof was an indication that it consented to the violation of the license or was such action that appellant might properly infer such consent and act thereon. When it is considered that the matter was under investigation until April 2, 1928, was in suspension between then and the time suit was filed, on July 19th following, and that this suit was filed, it seems impossible for the appellant to reasonably infer any such consent. There is no basis for such position."¹

A fortiori, where, as here, the royalties were not *retained* but were *returned*, the defense of acquiescence must fail.

Clearly, there is no justification in fact for petitioner's contention that "by their deliberate acts respondents must be deemed to have acquiesced in and to have ratified the acts complained of and to have waived any claim of infringement based thereon."² The facts establish just the opposite, as both of the lower courts held.

¹ Petitioner points out (Brief pp. 10, 11) that one of the reasons relied upon in the petition for writ of certiorari, granted by this Court in the *Maytag* case and later dismissed on stipulation (294 U. S. 553 and 294 U. S. 734), was based upon the acceptance of royalties, but petitioner does not state that the other reason relied upon was restraint of trade under the Anti-Trust laws.

² Brief, page 43.

PART III.

The fact that the continuation applications, upon which two of the Arnold patents issued, were filed more than two years after the patentee's first public use of their inventions, does not invalidate those patents, because those inventions were disclosed in Arnold's earlier original applications.

Petitioner contends that four of the Arnold patents are invalid because they issued upon continuation or divisional applications filed more than two years after their owner, the Telephone Company, first used their inventions in its Transcontinental Telephone Line which was opened to the public in January, 1915.

At the outset it should be noted that petitioner's contention could not possibly apply to more than two of the Arnold patents, namely, the Power Circuit Patent (1,329,283) and the Definite Input Impedance Patent (1,448,550), because, as the record shows, and as both of the courts below found, there was no public use of the inventions of either of the other Arnold patents prior to the filing dates of the divisional applications upon which they issued.¹ Therefore, we shall confine our discussion of this point to the two Arnold patents above identified.

¹ I, 95; III, 1721, 1679. Petitioner's mistaken assertion to the contrary (Brief, p. 44) is based solely upon the statement of Kendall (I, 102) that "I think that the subject matter of each of those patents" was used by the Telephone Company at least as early as September, 1915. The drawings of the Transcontinental Telephone Line were introduced by respondents and they do not contain the inventions of the two patents mentioned (Exhibits 8 and 9, II, 657, 658).

In the case of these two patents, the only public use asserted is the patentee's. And, occurring as it did in 1915, it 'did not precede by as much as two years, if at all, the filing of Arnold's original applications disclosing the inventions of those patents. There is no contention that the inventions of either of these Arnold patents was used by anyone adverse to the patentee prior to the filing of the continuation applications on which they issued, or that any patent claiming the inventions issued to anyone prior to that time. Further, petitioner itself did not use the inventions until 1929,¹ the year the present suits were filed,² and so can claim no intervening rights, as both lower courts held.³

The Power Circuit Patent issued on an application filed July 30, 1918. This application was a continuation of two earlier applications, both of which were filed May 28, 1914.⁴ The Definite Input Impedance Patent issued on an application filed February 3, 1919.⁵ This application was also a continuation of two earlier applications filed September 3, 1915 and November 2, 1915.⁶

Petitioner admits⁷ that the inventions claimed in the claims in suit of each of these Arnold patents⁸ were fully disclosed in their respective original applications

¹ III, 1681.

² Petitioner was not organized until September 12, 1928 (I, 392); it purchased the first infringing amplifier on February 4, 1929 (I, 392; II, 1225); and these suits were filed September 13, 1929.

³ III, 1722; 1681.

⁴ II, 628.

⁵ II, 641, lines 97-100.

⁶ II, 641.

⁷ Brief, page 43.

⁸ Claims 7, 10, 13 of the Power Circuit Patent; claims 1, 12 of the Definite Input Impedance Patent.

filed in 1914 and 1915.¹ We are, therefore, not concerned here with any of the technical distinctions between divisional applications and applications which are termed continuations or continuations-in-part.² The original and also the continuation applications were regularly prosecuted in the Patent Office within the time limits permitted by the statute.³

There was also continuity in the prosecution of the applications for each of the patents. One of the original applications on which the Power Circuit Patent is based was pending in the Patent Office on July 30, 1918 when the continuation application was filed,⁴ thus maintaining the continuity of the prosecution. The other original application for this patent issued as patent

¹ As to the Power Circuit Patent (1,329,283) see the specifications of the original applications (II, 1240-1244 and II, 1104-1111); as to the Definite Input Impedance Patent (1,448,550) see the specifications of the original applications (II, 997 and II, 1130).

² These distinctions are pointed out in *In re Klein*, 1930 C. D. 2; and see also *Ex parte Ellis*, 1919 C. D. 64. Divisional applications are merely a particular form or species of continuation applications.

³ R. S. 4894; 35 U. S. C. 37: "All applications for patents shall be completed and prepared for examination within six months [formerly one year and two years] after the filing of the application, and in default thereof, or upon failure of the applicant to prosecute the same within six months [formerly one year and two years] after any action therein, of which notice shall have been given to the applicant, they shall be regarded as abandoned by the parties thereto, unless it be shown to the satisfaction of the Commissioner of Patents that such delay was unavoidable." And see *Overland Co. v. Packard Co.*, 274 U. S. 417, 422; *Chapman v. Wintzath*, 252 U. S. 126, 137; *United States v. American Bell Telephone Co.*, 167 U. S. 224, 247.

⁴ II, 1304.

No. 1,129,942 on March 2, 1915¹ with claims for different subject-matter from that of the patent in suit. In compliance with Patent Office Rule 43,² this 1915 patent expressly refers to the other original application as "a copending application in my name" for the subject-matter for which the Power Circuit patent ultimately issued on the continuation application.³ The reason for the Patent Office Rule, requiring such references to a pending application, is, of course, to prevent any inference that subject-matter disclosed but not claimed in the issued patent has been abandoned. So also, in the case of the Definite Input Impedance Patent there was continuity of prosecution between the original applications and the continuation application. Both original applications for this patent were pending in the Patent Office on February 3, 1919 when the continuation application was filed.⁴

Furthermore, as the court below found, while "the particular combinations of the claims in suit were not

¹ III, 1455.

² "43. When an applicant files two or more applications relating to the same subject matter of invention, all showing but only one claiming the same thing, *the applications not claiming it must contain references to the application claiming it.*"

³ Patent No. 1,129,942 states (III, 1456, lines 9 to 14): "The structures which will provide the greatest degree of efficiency [power] in the above mentioned different types of audions form the subject-matter of a copending application in my name, Ser. No. 841,567 filed of even date herewith."

Petitioner states (Brief, p. 45) that "Concededly, only the second of these two applications," i. e. the one on which patent No. 1,129,942 issued, "is pertinent to our inquiry". We do not know what is intended by this statement and we are unable to see that it has any significance.

⁴ II, 1028; II, 1165.

specifically claimed" in the original applications, "broader combinations were claimed".¹

¹ III, 1722. Thus in the Power Circuit Patent, the particular combinations of the claims in suit include, as we shall see, the three elements of the vacuum tube and the limitation that they shall be so spaced that the impedance of the tube between its anode and cathode is of the same order as the outgoing circuit. These same elements and their spacing constituted the subject-matter of claim 4, for example, of original application 841,567 (II, 1245), but that claim did not contain any specific limitation, and was therefore generic, with respect to the amount of impedance between the anode and cathode. Similarly, the particular combinations of the claims in suit of the Definite Input Impedance Patent, include the three-element vacuum tube, and the input circuit for that tube. Also, as a limitation with respect to the input circuit the claims specify that that circuit has a conductive impedance shunted across it or like limitation. Claim 6, for example, of original application 59,210 (II, 1134) includes these same things but more broadly in that it omits the specific limitation with respect to the shunted impedance element of the input circuit.

On page 53 of petitioner's brief, petitioner refers to the above finding of the court below that broader combinations were claimed in the original applications and then makes the astonishing statement that "no assertion to that effect has ever been made by respondents in the Courts below, either in the record, the briefs, or in oral argument." In the District Court the petitioner made no assertion that the inventions were not claimed in the original applications. When the contention was made in petitioner's brief in the Court of Appeals, we specifically pointed out on page 45 of our brief in that court that while the particular combinations of the claims in suit were not specifically claimed in the original applications, broader combinations were claimed and, as appears above, the Court of Appeals so found. We also referred that court to the claims of the original applications.

Argument.

As appears from the foregoing statement of facts, the inventions of neither of these Arnold patents was in public use two years before their original applications were filed. The public use did not occur until nearly a year after the original applications of the Power Circuit Patent were filed, and less than a year before the filing of the original applications of the Definite Input Impedance Patent. And there was no adverse claimant or adverse user of the inventions prior to the issuance of the patents. Moreover, the original applications at the time they were filed contained claims for broader combinations than the claims in suit of the continuation patents.¹ Petitioner concedes² that this alleged defense is not made out if the inventions were claimed in the original applications. However, *since the public use relied upon was solely by the patentee*, we do not consider it at all material whether the inventions were or were not claimed in the original applications.

The General Rule Applicable to this Case:

The general rule is well established that where a second application, either divisional or continuation, is filed by an applicant during the pendency of an original application, that second application is entitled to the filing date of the original, *with regard to all subject-matter that is common to the two.*

In the instant case, petitioner concedes³ that the subject-matter of the claims of the two patents now under discussion was disclosed in the original applications, and carried over from those applications into the continuation applications upon which these patents issued. Therefore,

¹ *Supra*, pages 74-75.

³ Brief, page 43.

² Brief, page 47.

the effective filing dates for those claims are the dates of the respective original applications. And since the public use here relied upon commenced less than two years prior to those dates, it was not a public use of the invention "for more than two years prior to his [Arnold's] application" within the meaning of the statute,¹ and therefore is not a defense against the Arnold claims.

Cases directly in point on this proposition are cited in the margin.² As stated by this Court in *Chapman v. Wintroath*, 252 U. S. 126, 137:

"* * * not only have later or divisional applications not been dealt with in a hostile spirit by the

¹ R. S. 4886; 35 U. S. C. 31. So far as material here this statute provides that an inventor whose invention has not been "in public use or on sale in this country for more than two years prior to his application" may "obtain a patent therefor".

² *Chapman v. Wintroath*, 252 U. S. 126, 137; *Smith & Griggs Mfg. Co. v. Sprague*, 123 U. S. 249, 250; *Smith v. Goodyear*, 93 U. S. 486, 501; *Godfrey v. Eames*, 1 Wall. 317, 324-326; *Wirebounds Patents Co. v. Saranac*, 37 F. (2d) 830, 841 (C. C. A. 6; Denison, J.); *American Laundry Mch. Co. v. Prosperity Co.*, 295 Fed. 819 (C. C. A. 2), cited with approval by this Court in *Webster Co. v. Splitdorf*, 264 U. S. 463, 465; *American Chain Co. v. Franklin-New York Co.*, 34 F. (2d) 551 (E. D. N. Y., Campbell, J.); *American Chain Co. v. Stewart-Warner Speedometer Corp.*, decided by Thatcher, J., December 26, 1928 and unreported. Also Walker on Patents (6th Ed.) states (p. 246) as to *continuing* applications: "When the two applications are continuous the two years' public use or sale which may avoid the patent must be reckoned from the presentation of the first application, and not from the filing date of the subsequent applications or amendments"; and as to *divisional* applications (p. 246): "where an application covers two inventions, one of which is withdrawn therefrom by division and made the subject of a divisional application, that new application relates back to the original application from which it was carved, and is not chargeable with any diminution of significance, on account of the transaction."

courts, but, on the contrary, designed as they are to secure the patent to the first discoverer, they have been favored to the extent that *where an invention clearly disclosed in an application, as in this case, is not claimed therein but is subsequently claimed in another application, the original will be deemed a constructive reduction of the invention to practice and the later one will be given the filing date of the earlier, with all of its priority of right.*, *Smith & Griggs Manufacturing Co. v. Sprague*, 123 U. S. 249, 250; *Von Recklinghausen v. Dempster*, 34 App. D. C. 474, 476, 477.¹

In the above cited case of *Smith & Griggs Mfg. Co. v. Sprague*, 123 U. S. 249, this Court found that the invention of the divisional patent in suit had been in public use by the *patentee* more than two years before the filing of the *original* application and therefore held the patent invalid. But in passing upon this defense this Court also held that the divisional patent was entitled to the date of the original application, saying, (p. 250):

"The machines described in the two patents, it is admitted, are substantially the same in construction and operation, both patents being for different parts and combinations of a single machine. For the purposes of this case, therefore, the date of the application is to be taken as of December 2, 1878, being the earlier of the two."

So also in *Godfrey v. Eames*, 1 Wall. 317, which concerned a continuation application of the type here involved, the invention had been put in public use by the *patentee* more than two years before his continuation application was filed (though less than two years before his original

¹ This Court also decided in *Milburn Co. v. Davis Co.* 270 U. S. 390, 401, that what was disclosed in an application duly filed is a reduction to practice, and evidences a completed invention at the date of filing, even though it was not claimed.

application) and the same contention was made as here. Rejecting the contention, this Court held (pp. 325, 326):

"In our judgment, if a party choose to withdraw his application for a patent, and pay the forfeit, intending at the time of such withdrawal to file a new petition, and he accordingly do so, the two petitions are to be considered as parts of the same transaction, and both as constituting one continuous application, within the meaning of the law."¹

The Special Rule of the *Chapman* and *Webster* Cases:

The special rule of *Chapman v. Wintroath*, 252 U. S. 126, and *Webster Co. v. Splitdorf*, 264 U. S. 463, we understand to be, that a patent is invalid if the patentee without excuse delayed claiming the invention for more than two years after an adverse claimant or adverse user of the same invention appeared. The rule is merely a special application of the doctrine of equitable laches or estoppel² which prohibits the enforcements of claims where their enforcement would be inequitable. In every case with which we are familiar, applying this rule, the patentee had been stirred into filing the dominating claims by knowledge of his adversary's activity and had failed to act with the promptness required.

The principle of the *Chapman* and *Webster* cases obviously is just as applicable to original applications

¹ This case of *Godfrey v. Eames* is of particular interest because it is also authority for our position that the special rule of this Court's decisions in the *Webster* and *Chapman* cases, *supra*, is not applicable even where the invention was not claimed in the original application. This was the situation in *Godfrey v. Eames*, as clearly appears from the record in the case.

² See for example *Gallher v. Cadwell*, 145 U. S. 368, 371-373.

as it is to divisional or continuation applications,¹ and, we believe, is wholly inapplicable to a case such as the present one in which the elements of equitable laches and estoppel are entirely lacking because there was no adverse claimant or adverse user of the invention. As stated by the District Court in its opinion in this case:²

"The important aspect of the argument lies in the fact that it is not supported by any equitable considerations because the public use to which the defendant refers is the plaintiffs' own use, not that of any other inventor."

The facts of the *Chapman* case were these: Chapman filed in 1909 his original application which disclosed but did not claim the invention. An adverse claimant, Wintroath, filed an application for the same invention in 1912, and his patent claiming the invention issued November 25, 1913. On July 6, 1915, Chapman filed a divisional application copying the claims from Wintroath's patent. The case, therefore, involved a delay of twenty months on the part of Chapman in claiming for the first time in a divisional application the subject-matter of his adversary's patent. By analogy to the patent statutes³ and the de-

¹ See the able discussions of this point in the opinion by Judge Denison in *Wagenhorst v. Hydraulic Steel Co.*, 27 F. (2d) 27, 28-32, and in the opinion by Judge Hough in *American Laundry Mch'y Co. v. Prosperity Co.*, 295 Fed. 819, 822, 823. Also, as stated by the court in *Dwight & Lloyd v. Greenawalt*, 27 F. (2d) 823, 831 (C. C. A. 2):

"It is now settled law, in spite of any doubts that may have been cast upon it by certain observations in *Chapman v. Wintroath*, 252 U. S. 126, 40 S. Ct. 234, 64 L. Ed. 491, that a divisional application is no more than an amendment in the parent application.
• • • *Webster v. Splittorf*, 264 U. S. 463 • • •"

² III, 1680, 1681.

³ B. S. 4886, 4897 and 4920; 35 U. S. C. 31, 38, 69.

isions in the reissue cases, this Court stated that an inventor whose application discloses but does not claim an invention which is later patented to another is allowed two years after such patent issues within which to file a second or divisional application claiming the invention.¹ Because Chapman had made his claims within two years after the adverse patent issued, it was held that Chapman was within his rights in so doing.

In the *Webster* case, Kane, the patentee of the patent in suit, filed in 1910 his original application disclosing but not claiming the invention. On March 4, 1913 an adverse patent issued to a rival inventor, Podlesak. In 1915 Kane filed a divisional application in which the invention was disclosed but was still unclaimed. On June 17, 1918, more than five years after the Podlesak patent had issued, Kane inserted in his divisional application the claims in suit which were new and broader claims than he had ever made before and which dominated the 1913 Podlesak patent. It further appears from the opinion (p. 465) that Kane *intentionally* refrained from making the claims "because he considered their subject-matter one merely of design and not of invention"² and that "During all this time" the invention was "in *general* use". In support of the latter statement, the record in the case shows that the *defendant* had put the invention in general use by the middle of 1915.³

Again, this Court commented upon the analogy to the patent statutes and the decisions in the reissue cases, and this time held that the patent in suit (Kane's) was invalid

¹ As this Court made clear in the *Webster* case (264 U. S. 463, 471) this rule is merely one of assumed or imputed laches and not of statutory firmness.

² See Kane's testimony quoted in the opinion of the Court of Appeals, 283 Fed. 83, 94.

³ See for example Volume I, pages 418, 419 of the record in the *Webster* case.

because of his unreasonable and unexcused delay of more than five years in claiming the invention after the issuance of the Podlesak patent. The conclusion of the Court is stated in the following language (264 U. S. 463, 471):

"Our conclusion, therefore, is that in cases involving laches, equitable estoppel or intervening private or public rights, the two-year time limit *prima facie* applies to divisional applications and can only be avoided by proof of special circumstances justifying a longer delay. In other words, we follow in that respect the analogy furnished by the patent reissue cases."

The special rule of the *Chapman* and *Webster* cases is not applicable here:

Since the present case does not involve laches, equitable estoppel or intervening rights, the special rule of the *Chapman* and *Webster* cases would not apply even if broader claims to the subject matter in question had not been presented in the original Arnold applications.

In the courts below and also here¹ petitioner has seized upon the words "public rights" in the above quotation from the *Webster* case and insisted that in the present case the public acquired intervening rights because of the patentee's public use of the inventions. As appears above, in the *Webster* case the invention had been put into general use by the defendant which not only had acquired "intervening private rights" of its own but through its action resulting in the *general* use of the invention the public also had acquired "intervening public rights". Elsewhere, the opinion clearly shows that the Court did not have in mind public use confined to the patentee himself. For example, on pages 465 and 466, it was said:

"We are not here dealing, therefore, with the simple case of a division of a single application for several independent inventions, Patent Office Rules 41 and

¹ Brief, pages 50, 51.

42; *Bennet v. Fowler*, 8 Wall. 445, 448; *American Laundry Machinery Co. v. Prosperity Co. Inc.* 295 Fed. 819, but with a case of unreasonable delay and neglect on the part of the applicant and his assignee in bringing forward claims broader than those originally sought. * * * We have no hesitation in saying that the delay was unreasonable, and, under the circumstances shown by the record, constitutes laches, by which the petitioner lost whatever rights it might otherwise have been entitled to."

And on page 467, quoting from one of the reissue cases, this Court said that one "who seeks to revive his right which he has allowed to lie unclaimed" is disabled by laches "from enforcing it to the detriment of those who have, in consequence, been led to act as though it were abandoned."

In the *American Laundry Machinery* case (295 Fed. 819; C. C. A. 2), cited with approval in the *Webster* case, *supra*, the defendant moved to dismiss the complaint because the complaint did not allege that the invention had not been in public use for more than two years prior to the filing of the divisional application. The court held that such allegation was not necessary and denied the motion. In the opinion by Judge Hough, the court said (pp. 821, 822):

"In other words, and in this case, the inventor might have made, used in public, and sold his invention on the day after he filed his application on June 7, 1916, and then, because he acquiesced in a divisional ruling in 1919, invalidated *in limine* whatever he requested by the 'separate' application provided for by the rule and known to the profession long before the present code of patent practice. And this is said to be the peremptory rule of the *Chapman Case*, *supra*. We feel assured that no such rule exists.

"First. There is no intent shown by that decision to overrule earlier cases dealing with divisional applications in no 'hostile spirit'. Some are cited with approval at page 137 of the report. Divisional and

renewed [continuation] applications (absent intervening rights) should logically be treated alike. See *Godfrey v. Eames*, 1 Wall, 317, 17 L. Ed. 684; *Smith v. Goodyear*, 93 U. S. 486, 23 L. Ed. 952.

"Second. The decisions in this and other circuits, distinctly holding the contrary of the rule asserted, were not overruled or adverted to. *Victor, etc., v. American, etc., Co.*, 145 Fed. 350, 76 C. C. A. 180; *General, etc. Co. v. Continental, etc., Co.* 256 Fed. 660, 168 C. C. A. 54; *Rosenwasser v. B. E. Mfg. Co.* (C. C. A.) 264 Fed. 114. Some of these cases treat of renewed applications; however, they show the analogy, and we might rest decision, so far as we are concerned, on the last citation. *It cannot be thought that the court intended to upset without comment the whole current of authority, something so firmly established that it had long passed unchallenged into text-books.*"

In the case of *Wirebounds Patents Co. v. Saranac*, 37 F. (2d) 830, this Court's decision in the *Webster* case was specifically interpreted by the Court of Appeals for the Sixth Circuit as *not* applying where, as here, the public use of the invention has been *confined to the patentee and those having rights from him*. In that case the court said (p. 841):

"This case is plainly not within the *Splitdorf* rule, as we understand it, either by parallelism or by strict analogy. Defendant points out, as a general analogy, that the machine and method had been in public use by the applicants, who became the patentees, and under licenses from them, all for more than two years before the divisional application was filed. This is true. When it is remembered that the divisional application is normally entitled to the benefit of the original filing date, it is not easy to see how public use *under license from the applicants* can amount to that laches under which *adverse* rights may arise; or now the *Splitdorf* rule can apply unless the delay is after the public appearance of *an adverse claimant*, or, perhaps, one who may be an adverse claimant; . . ."

same interpretation was also placed upon the *Webster* in the two *American Chain* cases,¹ and in the case *Dubilier Condenser Corp. v. Radio Corp.*, 34 F. 450, 462, decided by Judge Morris in the District of Delaware. In the latter case it was contended the Dunmore patent No. 1,635,117, which was issued in original and not a divisional application, was invalid on the doctrine of the *Webster* case because the patentee had published a full description of the patented invention more than three and one-half years before he asserted the claim in suit which claim was for *broader subject-matter not previously claimed*. Distinguishing the case from the *Webster* and other cases, the court said (462):

"But, unlike those cases, in the suit at bar there was no delay of more than two years after *others* had entered the field, and there is no presumption that Dunmore had knowledge of defendant's loud speaker, or that the amendment was motivated by it."

as pointed out by Judge Hough in the opinion in the *American Laundry Machine* case, *supra*, (pp. 822-823):

"* * * What the Office and all the courts were considering in the Chapman Case was the evil of applicants who had not claimed, watching the published art, and demanding interference with men whose patents quite likely suggested to them, what they might have done. Such men can only be disciplined under existing statutes, by somewhat drastic imputations of laches, or establishing estoppels, * * *

"* * * The ordinary difficulty with divided, renewed, and sometimes even amended applications, is that they are efforts to validate something that was not carved out of anything but second thoughts, and cannot be called amendments of any original. This case is wholly free from such objections."

so is the case at bar.

American Chain Co. v. Franklin-New York Co., 34 F. 551, (E. D. N. Y., Campbell, J.), and *American Chain v. Stewart-Warner Speedometer Corp.* (S. D. N. Y.), decided by Thacher, J., December 26, 1928, unreported.

The very object of the patent laws is to encourage the use of new inventions. It is perhaps unnecessary to state that this object would not be promoted by a decision applying the special *Webster* rule against a patentee upon the basis of his own prior use, even in cases where the patentee failed to claim the invention either broadly or specifically before filing his divisional or continuation application. If such were the law no patentee could safely make his invention available to the public even after he had fully complied with the statute by filing an application disclosing it. He would have to wait until such time thereafter that he could be certain that it would not be necessary for him to file any continuation or divisional applications to protect his invention. In *Chapman vs. Wintroath*, 252 U. S. 126, 132, in which this Court upheld Chapman's right to make the claims in his divisional application, six years had elapsed after the original application was filed before Chapman realized it was necessary for him to file the divisional application to protect his invention. Here only four years elapsed before one of the continuation applications was filed and three and one-half years before the other was filed.

It should be noted that under the Patent Office Rules¹, which have the force of law,² the Patent Office may require division of an application at any time during its

"42. If several inventions claimed in a single application be of such a nature that a single patent may not be issued to cover them, the inventor will be required to limit the description, drawing, and claim of the pending application to whichever invention he may elect. The other inventions may be made the subjects of separate applications, which must conform to the rules applicable to original applications. If the independence of the inventions be clear, such limitation will be made before any action upon the merits; otherwise it may be made at any time before final action thereon, in the discretion of the examiner. * * *

¹ R. S. 483; 35 U. S. C. 6.

prosecution before final action on the application.¹ Such requirements are frequently made late in the prosecution of an application and are beyond the applicant's control.²

Frequently an inventor is unable to identify with any degree of certainty, at the time an application is filed, the particular parts or features of his work which constitute his patentable inventions. The very purpose of the ensuing prosecution of the application is to enable the inventor and the Patent Office Examiner to determine in light of the prior art cited by the Examiner precisely what invention or inventions are disclosed and can be claimed, either in one or two or more applications.

In *Bennet v. Fowler*, 8 Wall. 445, 448, this Court said:

"It is difficult, perhaps impossible, to lay down any general rule by which to determine when a given invention or improvements shall be embraced in one, two, or more patents. Some discretion must necessarily be left on this subject to the head of the Patent Office. It is often a nice and perplexing question."

Accordingly it has always been the practice of the Patent Office to grant patents on continuation or divisional applications for subject-matter disclosed by the inventor in his original application even though not claimed therein,

The Official Annual Reports of the Commissioner of Patents for the years 1916 (p. xiii), 1917 (p. x) and 1918 (p. xi) show that during the years 1915 to 1918, inclusive, approximately every twelfth applicant was required by the Patent Office to file a divisional application to protect his complete invention. More recently this has increased to every eighth applicant. These figures take no account of the many additional divisional and continuation applications which have been filed voluntarily by applicants before a requirement of division has been made, as in the cases of the continuation applications for the two Arnold patents here involved.

¹ *American Laundry Mch'y Co. v. Prosperity Co.*, 295 Fed. 819, 821.

and even though the inventor may have put his invention into public use more than two years before his continuation or divisional application was filed.¹

The two Arnold patents here attacked fall under the *general* rule, quoted above from this Court's decision in the *Chapman* case,² that a divisional or continuation application is "given the filing date of the earlier [application disclosing the invention], with all of its priority of right." Under this rule those patents are entitled to the filing dates of their respective original applications. Therefore, respondents' own public use of their inventions, which was not two years prior to those dates, is not a defense against the validity of their claims.

This would have been true even if the inventions of those claims had not been claimed in the original Arnold applications at all.³ The fact that broader combinations were claimed in those applications, affords an additional controlling reason why the special rule of the *Webster* case is not applicable here.⁴

¹ See *Von Recklinghausen v. Dempster*, 34 App. D. C. 474, 476, 477, decided by the Court of Appeals of the District of Columbia, and cited with approval by this Court in *Chapman v. Wintroath*, 252 U. S. 126 137, *supra*, page 78.

² *Supra*, page 77.

³ *Supra*, page 76.

⁴ In *Wagenhorst v. Hydraulic Steel Co.*, 27 F. (2d) 27 (C. C. A. 6), the court distinguished from the *Webster* case on this latter ground, saying (p. 32):

"Wagenhorst's amended divisional claim restricted his claimed invention to the specific form of its concrete embodiment. *This is a very different thing from the enlargement in the Webster case.*"

It is to be noted that the two-year rule of the reissue cases, relied upon as an analogy in the *Chapman* and *Webster* cases, is limited to broader reissues, that is, reissues in which the new claims are broader than those of the original patent. A patentee may obtain a valid narrower claim in a reissue patent at any time before the original patent expires. Walker on Patents (6th Ed.), page 353.

The only cases, in addition to the *Webster* case, relied upon by petitioner are *Westinghouse Electric & Mfg. Co. v. Jeffrey-DeWitt Insulator Co.*, 22 F. (2d) 277, *Otis Elevator Co. v. Atlantic Elevator Co.*, 47 F. (2d) 545, and *Crown Cork & Seal Co. v. Guttman*, 86 F. (2d) 698. All of these cases were decided by the Second Circuit Court of Appeals prior to the decision by that court in the present case, and are distinguished in the opinion in this case.¹ The *Crown* case is set for argument in this Court immediately preceding the present case.

The *Otis* case was the ordinary case of a broadened reissue patent in which the intervening adverse use was that of a third party, rather than the defendant's own use, and had existed for more than two years before the reissue was applied for.

In the *Westinghouse* case the patent in suit had issued on a divisional application which was filed more than two years after the defendant had itself commenced the sale of the infringing device and the invention had not been claimed until the divisional application was filed.

In the opinion in the *Crown* case, the court below pointed out that the patentee had deliberately cancelled the subject-matter of his divisional patent in suit from the specification of his original patent which issued more than two years before the divisional application for the patent in suit was filed; that the patentee was stirred into filing this divisional application by the issuance a year before to another of a patent claiming the invention; and that had it not been for the appearance of this competitor's patent the patentee of the patent in suit might never have considered the subject-matter worth claiming as an invention.² And in the present case, commenting upon

¹ 1721, 1722.

² 86 F. (2d) 698, 702.

its opinion in the *Crown* case,¹ the court below added that the patentee in the *Crown* case "had really abandoned the invention". Although it does not appear from the opinion in the *Crown* case, it is stated in the brief for the petitioner in that case submitted to this Court that the patentee had pending in the Patent Office, during the time between the issuance of his original patent and the filing of the application for his divisional patent, another divisional application which disclosed but did not claim the invention. We understand that it is mainly because of this fact that the petitioner in the *Crown* case contends that the decision in that case is in error.

There was no unusual or unnecessary delay in the present case:

Finally, it should be made entirely clear that in the present case there was no unusual or unnecessary delay before the continuation applications were filed. As we have seen, one of the original applications for the Power Circuit Patent issued in 1915² with claims for different subject-matter which the Patent Office promptly allowed. The other original application, which contained the broad claims, was several times rejected by the Patent Office and its prosecution was delayed by several interferences which were ultimately dissolved.³ The continuation application was voluntarily filed as soon as it became apparent to the applicant that the broader claims would not be allowed or would be allowed only after continued prosecution. By voluntarily filing the continuation application the applicant facilitated the prosecution and the patent was promptly granted on January 27, 1920.⁴

¹ III, 1722.

² III, 1455.

³ See the file history of this application, II, 1239-1304.

⁴ Petitioner repeatedly refers to the fact that the continuation applications here involved were voluntarily filed by Arnold. Arnold not only had the right to do this under the practice which has existed since prior to this Court's

The original application for the Definite Input Impedance Patent, which contained the broad claims directed to the same subject-matter of invention as the claims in suit, got into interference in 1916, the year after it was filed. This interference was ultimately carried into the courts and was not finally decided until 1931¹. Instead of waiting until the termination of this interference and then prosecuting the claims in suit in his original application as he might have done, Arnold voluntarily filed his continuation application in February, 1919, when it became apparent that the interference proceeding would continue for a number of years. This resulted in the prompt issuance of the continuation patent.² Instead of prolonging the monopoly Arnold greatly shortened it by his action in filing this continuation application.

Respondents' public use does not affect the validity of the Arnold Power Circuit and Definite Input Impedance Patents.

decision in 1863 in *Godfrey v. Eames*, 1 Wall. 317, 325, 326, but his action resulted in the earlier grant of the patents. See also *Chapman v. Wintroath*, 252 U. S. 126, 132, and *Overland Co. v. Packard Co.*, 274 U. S. 417, 419, in both of which the divisional applications approved by this Court were voluntarily filed.

On page 48 of its brief petitioner makes a general statement that all claims cancelled from the original applications for the Arnold patents were cancelled without reservation. The statement means nothing as to the matter in question. On the same page petitioner also states that patent No. 1,504,537, held invalid in *Western Electric Co. v. Wallerstein*, 60 F. (2d) 723 (C. C. A. 2), issued on one of the original applications on which the Definite Input Impedance Patent is based. The claims of patent No. 1,504,537 which were held invalid in that case were for entirely different subject-matter from the claims of the above mentioned patent in suit.

¹ See the file history of this application, II, 1120-1194.

² II, 641.

PART IV.

Each of the patents in suit is valid.

As this Court stated in *Thomson Co. v. Ford Motor Co.*, 265 U. S. 445, 446:

"* * * The question whether an improvement requires mere mechanical skill or the exercise of the faculty of invention, is one of fact; * * *"

In the instant case, both of the lower courts have concurred in finding that each of the patents now before this Court² involves patentable invention and is therefore valid. There is no conflicting decision by any other Circuit Court of Appeals. Therefore, in the language of the *Thomson Co. v. Ford Motor Co.* decision, page 447, this case calls for

"the application of the well settled rule that the concurrent findings of the lower courts on questions of fact will be accepted by this Court unless clear error is shown" (citing cases).

There is no such showing here.

Furthermore, as we have said, none of the reasons urged by petitioner for the granting of the writ in this case, touched in any way the findings below that the patents disclose invention.³

Under all of these circumstances, we recognize that this Court may not wish to review these findings. But if it does, we believe that it will find them sound and fully justified by the record.

At the outset of this discussion of the validity of respondents' patents over the prior art, it should be noted that this petitioner, which is now attacking the validity of these several patents, concedes that the inventions of

¹ To the same effect, see *Concrete Appliances Co. v. Gomery*, 269 U. S. 177, 180.

² There are six of these patents, not seven as petitioner's brief states (p. 54).

³ *Supra*, page 7.

their claims are embodied in its amplifiers, and concedes the usefulness and commercial success of those inventions.¹ Indeed, petitioner states² that its amplifiers which embody the inventions are useful "in any industry where economical, substantial and reliable amplification of electric current is desired". Furthermore, before purchasing its amplifiers from the Transformer Company, petitioner took pains to ascertain³ that that company had a license under "the R.C.A. patents" (which include the patents here in suit). And petitioner then conspired with that company in causing it to exceed the limitations of that license by selling to petitioner for theatre use, amplifiers of the high quality that can be secured only by the employment of the inventions of these patents.

We suggest that under these circumstances the present contention that these patents are invalid for lack of invention comes with ill grace from this petitioner.

In considering the various questions of inventiveness here presented, it must be remembered that the contributions covered by the several patents in controversy were made at the very beginning of this art, the earliest in 1912, and the latest in 1916. Now that this art has become commonplace, it is not easy to project one's self back to those early days when it was almost entirely empirical and when the *modus operandi* of three-element vacuum tube was shrouded in mystery. But it is in the light of their early day environment that the inventive character of these contributions must be appraised. They must be evaluated "with the 'eye and understanding' of those in the field when they were made."⁴ The Court must seek to recover the realities of a situation long past."⁵

¹ *Supra*, page 5.

² II, 731.

³ Brief, page 12.

⁴ *Cleveland Trust Company, et al. v. The Schriber-Chroth Company* (C. C. A. 6), decided October 8, 1937, and not yet reported.

⁵ *Minerals Separation, Ltd. v. Butte & Superior Mining Co.*, 250 U. S. 336, 345

We shall now consider each of these patents separately in the order in which they are listed above.¹ The Lowenstein Negative Grid Bias Patent comes first because it is the earliest, in point of filing date. Then comes the Mathes patent because it is a specific improvement upon the Lowenstein invention. And then the four Arnold patents in the order of their original filing dates.

1. The Negative Grid Bias Patent (Lowenstein).

This patent, No. 1,231,764,² was granted in 1917 upon an application filed in 1912. It expired in 1934. The claims in suit are 1, 2, 4, 5, 6 and 7. All of them were sustained in the Circuit Court of Appeals for the Second Circuit in *Western Electric Co., et al. v. Wallerstein*, 60 F. (2d) 723, and claims 1 and 7 were sustained in an earlier case, *Radio Corp. et al. v. Bunnell, et al.* (D. C. S. D. N. Y.), 22 F. (2d) 847, from which no appeal was taken.

Lowenstein's invention consisted essentially in the discovery that if the grid of the three element vacuum tube, when used as an amplifier, is made to operate by *potential* and not by *current*, the distortion produced in the input circuit by *current* (and reproduced in amplified form in the output circuit) could be prevented, and that operation exclusively by *potential* could be attained by the application to the grid of a suitable initial *negative* potential on which the signals to be amplified are superposed.

The direct result of this invention was vastly improved faithfulness of reproduction, accompanied by a greatly increased undistorted output.

In the case of *Western Electric Co. et al. v. Wallerstein*, 60 F. (2d) 723 (C. C. A. 2), in which the court below sustained this Lowenstein patent, that court said (p. 726):

"This contribution to the art has been of great merit."

¹ *Supra*, page 2.

² II, 615.

Referring to the lower portion of Fig. 1 of the Lowenstein drawing,¹ we shall first outline the general manner of operation of the three-element vacuum tube, when used as an amplifier.

The tube 15 consists of an evacuated glass envelope containing a filament (cathode) 16, a plate (anode) 17, and a grid 18. The input, or grid, circuit consists of the filament, the grid and the connections between them. The battery 19 (the "A" battery) furnishes current to heat the filament to incandescence, causing it to emit negative electrons. The output, or plate, circuit consists of the plate, the filament and the connections between them, which include the "B" battery. In the Lowenstein drawing the "B" battery is the portion of the battery 21 between the two arrow heads. This battery maintains the plate positive with respect to the filament. As a result, the plate attracts the negative electrons emitted by the incandescent filament, causing a current to flow through the output circuit.

When no signals are being received by the input circuit, the current flowing in the output circuit is constant. But when signals, in the form of alternating currents or potentials are applied to the grid, they vary the electrostatic field between the filament and the plate. This causes a variation in the electronic flow from the filament to the plate and therefore in the current flow in the output circuit. Very slight variations of grid current, or potential, will be more or less faithfully repeated in the plate circuit in the form of a pulsating direct current of greatly increased amplitude and energy, as compared with the incoming signals, owing to the high power furnished by the plate battery. The tube, therefore, acts as an amplifier.

In the Lowenstein drawing, the incoming signals are imposed upon the input circuit of the tube at the trans-

¹ II, 615.

former 12, 13; the output is through the transformer 22, 23.

Lowenstein's addition to the circuit, which has just been described, was the negative grid bias potential (the "C" battery), which appears in his drawing as the portion of the battery 21 lying to the right of the right hand arrow head. The grid, instead of being connected directly to the filament by the wire extending from the grid, through 13, was now connected by that wire to the negative terminal of the added battery, and the positive terminal of that battery was connected to the filament.

As a result, there was impressed upon the grid (or "modulating device" as Lowenstein calls it in some of his claims¹) a potential *more negative* than that of the filament (or "cathode"). Since the negative electrons emitted by the filament, will be attracted only by objects having a potential *more positive* than that of the filament, Lowenstein's scheme of biasing the grid negatively, prevented the flow of electrons from the filament to the grid and thereby eliminated distorting current flow in the input circuit. The grid now became subject to poten-

¹ II, 617, 618. Claims 1 and 7, for example, read:

"1. Telephone apparatus comprising the combination, with a talking circuit, of a suitably energized relay circuit including an anode and a cathode separated by a conductive gap, a ~~modulating~~ modulating device interposed in said gap and electrically connected with said talking circuit, *means for impressing upon said modulating device a potential more negative than that of said cathode,* and a translating device arranged to be energized from said relay circuit.

"7. The combination, with an audion having its anode and cathode included in a suitably energized circuit, of *means for impressing upon the audion grid a potential more negative than that of the audion cathode.*"

tial variations only, and the tube became a *potential* operated device instead of a *current* operated device.

Lowenstein was, unquestionably, the first to teach the negative grid bias. Since his discovery of it, it has been used virtually universally.

In its attack upon the validity of the Lowenstein patent, petitioner's primary reliance is upon the patent to Stone No. 884,110 of 1908.¹ This patent does show a battery Z in the input circuit. But, as petitioner concedes,² that battery has its *positive* terminal connected to the grid, not its *negative* terminal.³ Therefore, as was said in the *Bunnell* case,⁴ "if it teaches anything, it teaches the reverse of the Lowenstein claims." A *positive* bias of the grid, which would be the result of the Stone arrangement, would serve to *increase* the distorting current flow in the input circuit, instead of eliminating it, as Lowenstein's negative grid bias does.

DeForest patent No. 841,387,⁵ to which petitioner also refers, is equally barren of any suggestion of a negative grid bias. Petitioner refers particularly to the battery "B" of Fig. 2 of this DeForest patent. The most it can say about that battery is that the patent gives *no* designation of its polarity. This, in itself, disposes of this DeForest patent as a defense, for "the burden of proving want of novelty is upon him who avers it" and "his burden is a heavy one, as it has been held that 'every reasonable doubt should be resolved against him'."⁶ Furthermore, petitioner's expert conceded⁷ that with the detectors used at the time of this DeForest patent, it was customary to employ a sensitizing battery to keep the detector in a sensitive condition, and that for this purpose it would be

¹ III, 1432.

² I, 224, 225.

³ Brief, page 66.

⁴ 22 F. (2d) 847, 849.

⁵ III, 1424.

⁶ *Mumm v. Jacob E. Decker & Sons*, 301 U. S. 168, 171.

⁷ I, 300.

necessary that the battery be poled with its positive terminal connected to the grid. Under no circumstance could this DeForest patent be deemed an anticipation of the Lowenstein negative grid bias invention.

As a final comment on this Lowenstein patent, petitioner says that from the earliest days of the audion art, "the filament of the audion tube was *always* heated from a battery so connected that its negative terminal would be connected to the grid electrode (see DeForest Patent, No. 879,532—Rec. p. 1428, Figs. 1 and 2; DeForest Patent No. 995,126—Rec. p. 1435, Figs. 1 and 2)"¹ (Emphasis petitioner's). But petitioner neglects to state, that in each of these Figs. the negative terminal of the battery is connected to the grid *through a condenser* which, in effect, breaks the circuit—so far as direct current is concerned—so that "the grid gets no polarization or potential" from this source.² Even if the condensers were not interposed, "the grid would have the normal potential of the negative end of the filament" and would not be "ultra-negative", i. e., would not be more negative than any part of the filament, which is what Lowenstein taught.³

In the *Wallerstein* case the Second Circuit Court of Appeals concluded its opinion upon the Lowenstein patent, as follows:⁴

"... Lowenstein made a valuable contribution which has proven of great aid to mankind, particularly in the art here under consideration. The defendant has adopted it, and thereby infringes. This patent is therefore held valid and infringed."

That Court reached the same conclusions in this case. We submit that in doing so, it committed no error.

¹ Brief, page 67.

² I, 418.

³ *Id.*; also *Wallerstein* decision, 60 F. (2d) 723, 726.

⁴ 60 F. (2d) 723, 727.

⁵ III, 1714.

2. The Grid Biasing Resistance Patent (Mathes).

The Mathes Patent No. 1,426,754¹ was issued in 1922, upon application filed in October, 1916. It will, therefore, expire in 1939. The patent discloses *two* inventions with only one of which this case is concerned.

By the invention here involved Mathes made it possible to gain the important advantages of the Lowenstein invention without the disadvantage of using an extra battery. He accomplished this by making the filament heating or "A" battery serve, in combination with a resistance placed in the filament heating circuit, the additional function of biasing the grid. The usefulness of this invention has been thoroughly demonstrated by its extensive use. The invention is defined in claim 8, the only claim in suit, as follows:

"8. In an electric translating circuit, an electron discharge device having a cathode, and an anode and an auxiliary electrode, said auxiliary electrode and said cathode being in the input circuit of said tube, a source of current connected to said cathode, a resistance, *a circuit containing said cathode, said source and said resistance in series, said resistance being also included in the input circuit of said tube in such a manner that the potential of said auxiliary electrode is normally maintained lower than any part of said cathode by an amount substantially equal to the drop in said resistance, said cathode being rendered thermionically active by current flowing in said series circuit.*"²

As is apparent from the italicized portion of this claim, it defines the specific and very useful series circuit combination of grid biasing, resistance, filament heating battery and filament, the grid biasing resistance being included in

¹ II, 619.

² II, 623.

the same circuit as the filament and filament heating battery.

This arrangement is shown in Mathes' Figure 1,¹ in which the grid biasing resistance is shown at 9, the filament at 3 and the filament heating battery at 6. In operation, current flows from the positive or right-hand end of the battery up through the filament 3, thence through the resistance 9, and back to the negative end of the battery through the regulating resistance 15 and choke coil 14 which resistance and choke may be disregarded for present purposes. The result is that the left-hand end of the resistance 9 is at a lower potential than any part of the filament, as is also the grid 7, the grid being connected to the left-hand, low potential, end of the resistance 9 through part of the resistance 10.

As before stated, claim 8 in suit was held valid and infringed in the *Bunnell* case.²

¹ II, 619.

² 22 F. (2d) 847. The Mathes patent was also involved in the *Wallerstein Case*, 60 F. (2d) 723, but not claim 8 or its subject-matter. The feature of Mathes' invention that was involved in that case is covered by the second object of the patent, namely a method "for compensating for fluctuations in the potential of the output [plate] circuit battery of the vacuum tube" (pat. p. 1, lines 19-21, II, 621). That feature is disclosed in Fig. 3 of the patent and defined in claim 25, the only claim in suit in the *Wallerstein Case*. That court held that claim 25 was not infringed, pointing out that Mathes did not supply the grid voltage from a plate current source, as in the alleged infringing amplifiers. The decision has no bearing on the subject-matter of claim 8 in suit. That claim as we have seen is not a broad claim for obtaining negative grid bias by means of a resistance, but for the specific and very useful series circuit combination of biasing resistance, filament heating battery, and filament. The statement in petitioner's brief (p. 63) that claim 25, held not infringed in the *Wallerstein Case*, is "directed to the same subject-matter", as claim 8 here in suit, is obviously untrue (III, 1651).

At the trial, petitioner's expert selected the Arnold patent No. 1,129,942¹ as the best reference with respect to this Mathes patent.² And petitioner discusses that patent first in its brief here,³ relying primarily upon Fig. 6.

We find no suggestion in the record that this Arnold Fig. 6 embodies the Mathes grid biasing resistance invention. As we have seen, the whole purpose of that invention was to eliminate the necessity for a grid biasing battery. Yet the only testimony by petitioner's expert having any bearing at all upon the present issue is that in Arnold's Fig. 6 *the battery 11* "furnishes the necessary negative bias of this combination".⁴

The resistance 14, upon which petitioner apparently relies as performing the function of the Mathes grid biasing resistance, does not, and cannot, perform that function because the condensers 18 prevent any flow of direct current through it, from the filament heating battery 12.

Arnold patent No. 1,129,943,⁵ upon which petitioner relies also, is equally far afield. The specification of that patent specifically points out that the *batteries 6* are of such value as to give the desired negative bias to the grids.⁶ There is no resistance in the circuit of heating battery 7 which tends to impart a negative bias to the grids. Indeed, as respondents' expert explained, the batteries 6, in order to provide the desired negative grid bias, must first "overcome the voltage of battery 9".⁷

It is significant that petitioner is unable to refer to any testimony in the record, which supports its contentions regarding these prior Arnold patents. Concerning these patents, the Court below properly found:⁸

"* * * Instead of teaching that Lowenstein's battery can be dispensed with, these Arnold patents

¹ III, 1453.

⁴ I, 263.

² I, 302.

⁵ III, 1459.

³ Page 64.

⁶ III, 1461, ll. 36-40.

⁷ I, 423, 424. Apparently it was to avoid this additional demand upon the grid biasing batteries that the blocking condensers 18 were provided in Fig. 6 of Arnold patent 1,129,942, discussed above (III, 1457, ll. 25-32).

⁸ III, 1715.

teach that it should be used and they do not teach, as Mathes provides, that the filament heating battery can serve the additional function of biasing the [fol. 1717] grid if the biasing resistance is included in the series in the filament heating circuit."

The Colpitts *et al.* patent No. 1,338,450¹ discloses in the right-hand portion of Fig. 2 the resistance 64. This resistance is *not* in the filament heating circuit, as was admitted by petitioner's expert.² Furthermore, this arrangement is inherently defective because the resistance 64 tends to compensate out or eliminate the signal which it is the whole purpose of the amplifier to strengthen. As respondents' expert testified,³ and the court below found⁴ the resistance 64 "has a deamplifying effect . . . which makes it highly objectionable in an amplifier".

Mathes made a distinct contribution to the art in his particular series arrangement of grid biasing resistance, filament and filament heating source, as claimed in claim 8, which secures the negative grid bias without adding a battery for that purpose.⁵ This claim has now been twice sustained by District Courts, and once by the Circuit Court of Appeals. We submit that it should be held valid here also.

3. The Power Circuit Patent (Arnold).

This Arnold patent No. 1,329,283⁶ issued in 1920 upon an application filed July 30, 1918, which was a continuation of two earlier applications filed May 28, 1914. The patent expired last January, pending the appeal.

As we have seen, the three electrode vacuum tube, during its entire existence from 1906 until it came into Arnold's hands in 1912, had remained a mystery. Neither DeForest nor others had been able to throw any light on its internal characteristics. It had remained purely

¹ III, 1531.

² I, 305.

³ I, 427.

⁴ III, 1715.

⁵ *Id.*

⁶ II, 628.

an empirical device and in the form in which it had been built was inadaptable to either high voltage amplification or large current output and could yield only a trifling amount of power.

Arnold discovered and in this patent disclosed not only the fundamentals of the tube's operation but how to construct it so as definitely to adapt it to utilization in circuits and with other circuit elements to give the most efficient results. He showed how to produce at will tubes having the desired characteristics, and how to determine in what circuit arrangements particular types of tubes should be used to do the work at hand. This work was fundamental and pioneer in character, and its useful results have been far reaching. *With the possible exception of the DeForest audion patent, there is no patent in this art which exceeds in the importance of its contribution that of the Arnold patent under consideration.*

Referring to the high current or power tube disclosed in this Arnold patent, Dr. DeForest said in his 1920 Franklin Institute paper:¹

" . . . Such rapid progress was made in improvement of design and construction of these so-called 'power tubes,' notably by the engineers of the Western Electric Co., that by autumn of 1915 a bank of several hundred tubes, their input and output electrodes connected in parallel, were installed at the Arlington wireless station. . . . By this arrangement the voice was transmitted that year as far as Honolulu and Paris, thus fulfilling predictions made in 1909 to a very skeptical world."

The broad object of the Arnold invention is stated at the beginning of the specification as follows:²

"This invention relates to thermionic amplifiers of the audion type, and its object is to provide a structure by which certain desired characteristics of the amplifier may be secured at will and in an efficient

¹ II, 712.

² II, 628, ll. 10-19.

manner. This object is accomplished by proportioning the geometrical and electrical relations of the various elements of the device in a manner more fully explained later in this specification."

The concepts and constructions as well as the results that Arnold was about to express were wholly new. The art had no generally understood terms which could be used. Arnold accordingly had to make his own vocabulary. He therefore proceeded to define a number of terms which he would use including what he meant by a high voltage amplifier tube and a high current amplifier tube. If the ratio between the output voltage and the input voltage is high the tube is a high voltage amplifier. If the ratio of the output current to the input voltage is large the tube is a high current amplifier or power tube.¹ As stated in the next paragraph of the specification,² Arnold found that—

"amplifiers may be designed for given circuit conditions so that they will have whichever of the above mentioned characteristics is desired. That is; one may be designed to deliver to a receiving device a comparatively high voltage with a low current, or vice versa. The principles of operation which have been discovered which enable this result to be accomplished may be stated as follows."

The principles of operation referred to are those utilized in the inventions of the claims in suit. They may be summarized as follows:

First Principle: Locate the grid as near as possible to the filament for all purposes.

Second Principle: Space the plate and filament widely apart for high voltage output and closely together for high current output.

Third Principle: Use a fine mesh grid for high voltage output and a coarse mesh grid for high current output.

¹ II, 628, l. 96 to 629, l. 6.

² II, 629, ll. 6-15.

Fourth Principle: For maximum efficiency, construct the tube so that its internal impedance between the plate and filament "is equal to the total impedance of the variable current consumption circuit",¹ i. e., the external or work circuit. *That is, the internal impedance between the plate and filament of the tube should equal or match the impedance of the external circuit, including the receiving or translating device to which power is to be supplied.*

We are here concerned with the application of these principles in producing an amplifier with a high current or large power output, such as petitioner's amplifiers. Greater power is required to drive the loud speakers of public address and talking motion picture systems than is required for radio or telephone. Indeed, without the power amplifier disclosed in this Arnold patent, public address and talking motion picture systems could not be successfully operated with any loud speaker yet devised.

The high voltage amplifier is illustrated in Fig. 1 of the patent² in which the grid 1 is of fine mesh and the plate 3 widely spaced from the filament 2. The large power tube, or high current amplifier, is shown in Fig. 3, with the plate 3a spaced as closely as possible to the filament 2a and the grid constructed of coarse mesh. The complete amplifier is shown in Fig. 10³ in which the tube V¹ is a large power tube with a coarse mesh grid and its output circuit is coupled by the transformer 17-18 to the work circuit containing the receiver 15. As explained in the Arnold patent the tube of Fig. 10 is of the high current type whose low output impedance is matched to the low impedance of the external or work circuit.⁴

¹ II, 629, ll. 65-66.

² II, 627.

³ II, 626.

⁴ II, 631, ll. 30-46.

The Claims:

Claims 7, 10 and 13 in suit are quoted in the margin.¹ Each is for the novel combination of a power or high current three-electrode vacuum tube of low impedance with a work circuit having low impedance of the same order of magnitude. Claim 7 specifies that the three elements of the tube are "so spaced that the impedance of said discharge device [tube] between said anode [plate] and said cathode [filament] is of the same order as that of said outgoing [work] circuit." Claim 10 is even more specific,

¹ II, 632. "7. The combination with a thermionic discharge device having a cathode, an anode and a control element, of an input circuit therefor, and an outgoing circuit having impedance and connected to said anode and cathode, said cathode, anode and control element being so spaced that the impedance of said discharge device between said anode and said cathode is of the same order as that of said outgoing circuit.

"10. The combination with a thermionic discharge device having a cathode, an anode, and a grid, of an input circuit connected to said cathode and said grid, an outgoing circuit having impedance and connected to said anode and cathode, a source of electromotive force in said outgoing circuit, and means for impressing a varying electromotive force upon said input circuit, said cathode being placed in immediate proximity to said grid but out of electrical contact therewith, and said anode being so spaced from said cathode and grid and the said grid being of such coarse mesh that the impedance of said discharge device between said anode and said cathode is of the same order as that of said outgoing circuit.

"13. The combination with a thermionic discharge device having an anode, a cathode, and an impedance varying element, of an input circuit connected to said impedance varying element, a source of variable electromotive force in said input circuit, a source of electromotive force connected to said anode and cathode, and a work circuit connected to said anode and cathode, the impedance of said discharge device between said cathode and anode being of the same order as that of said work circuit."

stating that the filament is placed in immediate proximity to the grid, and that the plate is so spaced from the filament and the grid made of such coarse mesh that the two impedances mentioned above are of the same order. Claim 13 is quite similar to claim 7. It adds to that claim "a source of variable electromotive force in said input circuit", that is, the signal, but does not refer to the spacing of the elements as does claim 7.

The Prior Art:

The first of the four patents upon which petitioner relies in its attempt to invalidate the claims of this Arnold patent is the Seibt patent 1,012,456.¹

This Seibt patent had nothing whatever to do with the vacuum tube which was practically unknown when Seibt filed his application.²

What Seibt shows is an *arc transmitter* with a *microphone*, and all that he teaches is that in such a system a maximum output may be obtained when the resistance of the *microphone* is equal to the resistance of the rest of the system. With the simple and well-known devices which Seibt was using, this involved merely the simple transfer of electrical energy to a circuit. Even so, Seibt found it necessary to set forth a number of complicated mathematical formulæ in explanation of his disclosure.

Petitioner does not press the contention that Arnold's claims did not involve invention over this Seibt patent.³ Both of the courts below held—correctly, we think—that the Seibt patent had no bearing upon the Arnold invention.⁴

In its effort to invalidate this Arnold Power Circuit Patent, petitioner apparently places its principal reliance

¹ III, 1438.

² District Court Opinion, III, 1659; Court of Appeals Opinion, III, 1717.

³ Brief, page 56.

⁴ III, 1659, 1717.

upon another patent of Arnold, No. 1,129,943¹ which, it says contains a full disclosure of this invention. So it does. But that Arnold patent issued upon an application which was filed on the same day as the original application for this Power Circuit Patent. Therefore, it cannot be treated as an anticipation or as part of the prior art. Apparently recognizing this, petitioner places its argument on the ground that what Arnold did not claim in patent No. 1,129,943, he abandoned, and could not reclaim in the continuation application for this Power Circuit Patent which was filed after the issuance of patent No. 1,129,943, *even though it was filed while the original application disclosing the present subject matter was still pending.*² Petitioner cites no authority for this proposition. The authorities are the other way. *Traitel Marble Co. v. Hungerford Co.*, 22 F. (2d) 259 (C. C. A. 2). And see our discussion of this point in Part III of this brief.³ Both of the courts below rejected petitioner's proposition, in the case at bar.⁴

The Colpitts patent 1,129,959,⁵ upon which petitioner relies, has no bearing upon the validity of the Arnold Power Circuit Patent, because neither the Colpitts patent nor the date of its application anticipates the date of Arnold's invention. As found by the District Court, that invention was made prior to April 6, 1914, which was the filing date of Colpitts who was one of Arnold's co-workers.⁶ When Arnold's earlier date of invention was established before the Patent Office, the Colpitts patent, which had been cited against the Arnold application, was withdrawn as a reference.⁷ The District Court disposed

¹ III, 1459.

⁴ III, 1660, 1717.

² Brief, page 56.

⁵ III, 1463.

³ *Supra*, page 71.

⁶ III, 1659, 1660. The record upon which this finding was based contained incontrovertible documentary evidence establishing Arnold's priority (II, 814, 817, 805-813).

⁷ II, 881, 891.

of the Colpitts patent similarly. And the Circuit Court of Appeals likewise found that it did not anticipate.¹

Petitioner's passing reference to the Langmuir patent 1,558,436,² does not involve any contention that it discloses the Arnold invention. All petitioner claims for Langmuir is that he pointed out that the geometric proportions of the audion tube affect the amount of current which will pass with a given voltage. That is indeed a far cry from Arnold's discovery that for maximum efficiency the tube should be so constructed that its internal impedance between the plate and filament should be equal to the total impedance of the external circuit.

The ultimate finding of the court below on this Arnold Power Circuit Patent that it "has become an important contribution to the art" and "constitutes invention",³ is believed to be unassailable.

4. The Resistance-Capacity Coupling Patent (Arnold).

This Arnold Patent No. 1,403,475⁴ issued January 17, 1922 upon an application filed November 11, 1920, which is a division of, and was copending with, Arnold's original application Serial No. 48,873, filed September 3, 1915.⁵ The invention was employed in the receivers used in the 1915 Radio Telephone experiments,⁶ and has since been widely used.⁷ The patent will expire in January, 1939.

The patent discloses a new method of coupling the output circuit of one three-electrode vacuum tube to the input circuit of another, by which what is known as

¹ III, 1717.

² II, 991.⁴⁵

³ III, 1550.

⁴ I, 107.

⁵ III, 1717.

⁶ I, 91.

⁷ II, 636.

frequency distortion is entirely avoided. *This new coupling made it possible for the first tube to pass on to the next all frequencies of the signals equally amplified, i. e., without distorting any of them.* By this means the lowest as well as the highest frequencies found in voice or music are equally amplified, a result that can only be obtained with resistance coupling.¹ A further important advantage of the coupling is that extremely small, as well as large, currents or energies are equally effectively passed on to the next tube. This latter advantage is of great benefit in amplifiers, used for talking motion pictures, such as petitioner's amplifiers.²

In such amplifiers only a very small energy is produced by the photo-electric cell when light, modulated only by the variations of density of the talking motion picture film, falls upon the cell. The energy is so small that a satisfactory and efficient coupling could not be obtained with transformers or any other known means of coupling.³

In the patent drawing, the first tube 21 is a detector, the output of which is to be passed along to the adjacent tube 31. The direct current path of the plate or output circuit of the first tube consists of the space between the plate 10 and filament 8, the B battery 27, the choke coil 28 and the resistance 25 which is the coupling resistance. *The voltage variation at the top of this resistance 25 corresponds exactly to the signal no matter what the frequency.*⁴ The voltage variations thus created at the upper end of the resistance 25 pass to the grid of the second tube through the condenser 26. The grid of the second tube is connected to its filament through the biasing battery 30 and the resistance 29, an important

¹ III, 1664, 1717.

² I, 174, 175; III, 1664, 1718.

³ *Id.*

⁴ I, 172, 173.

function of the latter being to permit the electrons, which would otherwise accumulate on the grid of the second tube and block the operation, to leak off through the resistance.¹ The principal elements of the described combination are, therefore, the coupling resistance 25 which is independent of frequency, the condenser 26 through which that resistance is connected to the grid of the second tube, and the resistance 29 which connects that grid to the filament.

Claims 8, 9 and 10 in suit are quoted in the margin.² Each of claims 8 and 9 specifies the resistance 25 and condenser 26 of the patent; claim 10 includes additionally the resistance 29.

Two patents are relied upon by petitioner, namely, Arnold 1,129,942,³ and Nichols 1,257,381.⁴

Concerning the Nichols patent, petitioner says that it "issued more than two years prior to the application date

¹ I, 172, 173.

² II, 638. "8. In combination a circuit comprising a resistance and means for producing potential variations across said resistance, a vacuum tube having input electrodes, and connections for impressing said variations on said electrodes, said connections comprising a series condenser.

"9. In combination, a circuit comprising a resistance, a source of direct current and means for producing variations in said current, a vacuum tube having input electrodes, and connections for impressing said variations on said electrodes, said connections comprising a series condenser.

"10. In combination, a circuit comprising a resistance and means for producing potential variations across said resistance, a vacuum tube having input electrodes, connections for impressing said variations on said electrodes, said connections comprising a series condenser, and a resistance shunt for said input electrodes."

³ III, 1453.

⁴ III, 1491.

⁵ Brief, page 58.

(November 11, 1920) of the divisional application for the patent in suit." But that is not sufficient to make it part of the prior art. It is disqualified because it was neither issued nor filed prior to Arnold's original application disclosing this invention.¹

Concerning the Arnold patent 1,129,942,² relied upon by petitioner as showing a resistance-capacity coupling amplifier, we quote the finding of the court below,³ which we have annotated with references to the record:

"The Arnold patent No. 1,129,942 of the prior art does not disclose a resistance capacity coupling amplifier. Defendant claims in fig. 6 the coupling between the first and second tube is a resistance capacity coupling, but it is not. It is an inductance capacity coupling as the defendant's expert admitted, referring to the difference as an essential one.⁴ An inductance consisting of a wire-wound iron core, impedes the flow of alternating current, impeding high frequencies more than low, and causing distortion. The object of the patent in suit was to avoid such discrimination."⁵

Petitioner has failed to show any error in the findings of the courts below that this Arnold patent is valid.

5. The Definite Input Impedance Patent (Arnold).

This Arnold Patent No. 1,448,550⁶ issued March 13, 1923, upon an application filed February 3, 1919, which is a continuation of two earlier applications Serial No. 48,873 filed September 3, 1915⁷ and Serial No. 59,210 filed

¹ *Supra*, page 109.

² III, 1718.

³ III, 1453.

⁴ I, 262, 263-265.

⁵ I, 553; also District Court Opinion, III, 1664, 1665.

⁶ II, 640.

⁷ II, 991.

November 2, 1915.¹ This patent will expire in March, 1940.

The input circuit of a three-electrode vacuum tube has a very high impedance of the order of 25,000 ohms,² even when the grid is not biased negatively by the use of the Lowenstein invention. When that invention is used, the impedance of the input circuit becomes substantially *infinite*³ because no electrons can flow from the filament to an electrode which is negative with respect to the filament.

For the tube to be useful, such as from the end of a telephone line or the output side of another vacuum tube, connections must be made to its input circuit so as to supply the tube with the signals to be amplified. But when such a line or preceding tube, which is of finite impedance "looks into", as the engineers express it, the input circuit of the tube, it "sees" a very high or infinite impedance. In the absence of this invention, the action that would occur in imposing the signals on the input circuit might be likened to throwing a ball against a wall from which it rebounds. The reflection back into the line or into the preceding tube, due to the high impedance encountered, may produce an echo in the telephone line which the speaker at the far end of the line will hear as an interfering echo of his own voice; it may disturb the operation of other amplifiers in the line; it may result in producing a state of resonance in the transformer at the end of the line, upsetting

¹ II, 1120: Petitioner says (Brief, p. 59) that no effort was made to establish what part of the subject-matter of the claims in suit constitutes a continuation of these earlier applications. The file histories of those applications were offered in evidence for that very purpose, and the invention of the claims in suit is fully disclosed in the specification as filed of each application (II, 1130, ll. 23-32; 997, ll. 14-21) as petitioner admits (Brief, p. 45). The court below found that the application for this patent was "the continuation" of the 1915 application (III, 1718).

² II, 641, ll. 20-23.

³ II, 641, ll. 26-35.

its operation so that it will discriminate as to certain frequencies; and it may result in what is known as "feed back" by setting up undesired oscillations which will be fed back into the line or preceding tube and interfere with their operation.¹ *All of these effects were cured by the invention of the Arnold patent under consideration.*

Referring to Arnold's patent drawing,² he placed a high impedance across the input terminals of the amplifier tube 2, that is, in shunt to those terminals and also in shunt to the secondary coil of the input transformer 5. The incoming line is indicated as 1. With a high impedance thus included in the input circuit, that circuit having infinite impedance, is made to look to the incoming line like a definite load of finite impedance.³ Thus the patent is known as the Definite Input Impedance Patent.

The impedance, which is of the order of 500,000 ohms,⁴ absorbs the energy which would otherwise be reflected, or cause resonance or feed-back.⁵ In addition to overcoming these serious difficulties in the use of the vacuum tube as an amplifier, the invention also made it feasible for the first time to substitute indiscriminately in one circuit, tubes having different input impedances,⁶ which in itself was of great practical importance.

¹ I, 175-179.

² II, 640.

³ I, 178-179.

⁴ II, 641, l. 44.

⁵ II, 641, ll. 78-88; I, 179.

⁶ II, 641, ll. 58-62, 89-96.

Arnold's date of invention was found below to be earlier than any of the patents relied upon by petitioner:

Claims 1 and 12 in suit are quoted in the margin.¹ Claim 12 differs from claim 1 in specifying that the impedance is of the order of 500,000 ohms, as in petitioner's amplifiers.²

Petitioner cites three patents,³ Colpitts 1,129,959, filed April 6, 1914,⁴ Colpitts Reissue 14,380, filed May 18, 1914⁵ and Van der Bijl 1,350,752, filed August 21, 1915⁶ but all are later than the date of Arnold's invention as found in this case.⁷

Upon the basis of "convincing testimony" which was "fortified by records", the District Court found that Arnold's date of invention was in "the early part of March, 1914".⁸ And since none of the patents relied upon by petitioner has an issue date or an application date as early as that, none of them requires consideration. The District Court so held,⁹ and the Circuit Court of Appeals

¹ II, 642. "1. The combination of a vacuum discharge repeater of the three-electrode type, an inductive coil conductively connected to the input electrodes of said repeater, and a conductive impedance in shunt to said coil.

"12. The combination of a line, an amplifier in circuit therewith having an input impedance which is practically infinite, and a shunt between said line and said amplifier having an impedance of the order of 500,000 ohms."

² I, 179.

³ III, 1486.

³ Brief, pages 59, 60.

³ III, 1507. ✓

⁴ III, 1463.

⁷ III, 1668. Colpitts and Van der Bijl were both Arnold's associates and undoubtedly learned the invention from him. It is also noted that the two Colpitts patents were cited as references in the Patent Office and were withdrawn when Arnold swore back of them (II, 924).

⁸ III, 1668.

⁹ *Id.*

affirmed.¹ That court properly confined its discussion to the defense of "double patenting" which petitioner does not now urge.

No reason has been advanced by petitioner for altering the finding of both of the courts below that this Arnold patent is valid.

6. The Common Plate Supply Patent (Arnold).

This Arnold Patent No. 1,465,332² is the last of the patents sustained below and covers one of the most useful of the inventions. It issued on a divisional application filed August 28, 1920, which was based upon application, Serial No. 48,873, filed September 3, 1915.³

As was found below,⁴ *the invention of this patent made it possible for the first time to use a common source of plate current for two or more three-electrode vacuum tube amplifiers without introducing prohibitive distortion.* The patent states:⁵

"An object of this invention is to provide means whereby a plurality of vacuum tubes to be used as repeaters or amplifiers may be supplied with space current from a single source, but in such a manner that current changes in one tube due to signals being repeated cannot be impressed upon another tube through said source.

"With the arrangement shown herein, a single source of space current is used to energize both tubes of a two stage amplifier, and in the branches of the circuit therefor are interposed filters of series inductance and shunt capacity to prevent alternating current from being bypassed therethrough."

Thus, the problem in using such a common source was to prevent that source and the connections to it from serv-

¹ III, 1719.

⁴ III, 1720.

² II, 643.

⁵ II, 644, ll. 12-26.

³ II, 993.

ing as a path through which the amplified signals in the plate circuit of the subsequent tube or tubes can get back into the circuits of the preceding tube or tubes, thereby setting the circuits into a state of oscillation or regeneration. When such feed back occurs the amplified signals in one tube will flow in the plate circuit of the preceding tube and through that circuit will again be impressed on the input circuit of the tube from which they came. A cycle is thus set up which will change the tube into a generator of oscillations nullifying its usefulness as an amplifier. Arnold's invention prevents this, making it possible to use a common plate or direct current supply for a plurality of tubes while preserving the alternating or signal current separateness of the output circuits of the tubes.¹

In the patent drawing, the plate or B battery 20 supplies plate current to the plate circuits of the two tubes 10 and 11. With regard to tube 10, the specification states:²

"* * * Current between the anode and cathode is supplied from battery or other suitable source 20, the current passing in series through the inductance 21 and the transformer primary 22. A shunt condenser 23 provides a path for the alternating current."

And as to tube 11:³

"Direct current is supplied to the tube 11 from source 20, through inductances 28 and 29, and grounds 30 and 31. Condenser 32 is shunted across the direct current circuit. The output circuit for alternating current comprises the condenser 33 and the primary 34 of a transformer, * * *"

The functions of the inductances and condensers are stated as follows:⁴

"The series inductances 21 and 28 and the shunt condensers 23 and 32 serve to prevent potential

¹ I, 86, 181-183.

² II, *Id.*, ll. 63-69.

³ II, 643, ll. 48-54.

⁴ II, *Id.*, ll. 85-89.

variations from the source or from either tube with out [from] being impressed through the supply circuit on the other tube."

The condenser 23 in the plate circuit of tube 10 affords an easy path for the alternating current produced in the plate circuit of that tube, and the impedance or choke coil 21, while permitting the direct current from the battery to flow through it to supply the plate current, obstructs the flow of the alternating current so as to keep it out of the battery 20. Similarly the condenser 32 provides an easy path for the alternating current in the plate circuit of the tube 11, and the impedance 28 prevents the alternating current from getting into the battery and through its connections into the plate circuit of the tube 10. Furthermore, if any such current from the tube 11 should get past the impedance 28 it would be further impeded by the impedance 21 and thus kept out of the plate circuit of the tube 10. Thus Arnold disclosed a complete filter combination which was capable of meeting the most severe conditions.

Claims 1, 3, 5, 8, 10 and 11 are in suit of which claim 1, quoted in the margin,¹ may be taken as an illustration.

Only one patent is relied upon by petitioner, namely, Arnold 1,129,942.² This patent was cited by the Patent Office against the patent in suit³ and then withdrawn by the Examiner⁴ upon it being pointed out by Arnold⁵ that his earlier patent relates to the transmission characteristics of vacuum tube circuits and for its pur-

¹ II, 644. "1. In combination, a plurality of vacuum tube repeaters, a common source of space current for said repeaters, the circuit between one of said repeaters and said source comprising series inductance, and a path comprising capacity bridged across said circuit between said source and said repeater."

² III, 1453.

⁴ II, 959.

³ II, 954.

⁵ II, 956-957.

poses it is immaterial whether power is supplied from a common battery or from separate batteries.¹ Furthermore, the inductance coils 17 in the patent are coupling elements, as petitioner's expert admitted² and are in the coupling position in the circuit and not in the filter position where Arnold shows them in the patent in suit. They therefore correspond in function to the inductance coil 29 in the patent in suit and not to the series impedances 21 and 28 with which the invention of the patent in suit is concerned. Being coupling inductances they are located in the alternating current circuit next to the plates of the tubes and the alternating current has to flow through them.³ It is obviously impossible for inductance coils 17 to act both as coupling means and as filter elements. They are designed to permit alternating current to pass through them which it is the purpose of the impedances 21 and 28 of the patent in suit to prevent. As respondents' expert testified,⁴ and as the District Court specifically found⁵ the earlier patent discloses no inductance as a filter means. Similarly, the condensers 18 in the earlier patent do not perform the function of the shunt condensers 23 and 32 of the patent in suit. To perform such function in the absence of properly located inductances, they would have to be enormously large condensers with correspondingly low impedances. There is no such disclosure in the patent,

¹ This creates a strong presumption of validity. As stated by the Circuit Court of Appeals for the Second Circuit in *Ensign Carburetor Co. v. Zenith-Detroit Corporation*, 36 F. (2d) 684, 686: "The patent in suit was granted only after a consideration of the principal prior patents which are now referred to as anticipations . . . Having had this consideration before the patent issued, the usual presumption of validity which accompanies the grant is greatly reinforced."

² I, 262.

⁴ I, 555-556.

³ I, 180-182.

⁵ III, 1674.

the only reference which is made in the specification to either the inductances or condensers being as follows:¹

"* * * An impedance coil 17 is included in bridge of the output circuit of each audion, and in the output circuit of the two audions, 1, 1, condensers 18, 18 are inserted in series with the resistances 14. By such arrangement the several batteries 11 may be largely reduced in voltage."

All that this statement teaches is that the particular bridge arrangement of the inductance 17, condensers 18 and resistance 14 makes it possible to use smaller grid biasing batteries 11 than would otherwise be the case.

Thus it appears that in his earlier patent Arnold showed a battery for supplying plate current to a plurality of tubes but he *did not disclose the arrangement of series inductances and shunt condensers, claimed in the claims in suit² and which are essential to the best results with a common source of plate current in an amplifier.* Without these filter means, as we have seen, prohibitive distortion is introduced through the path common to the tubes. These means are included in each of the claims in suit, none of which can be read on the disclosure of the earlier patent.

Arnold thus made another important contribution to the art in providing means for supplying, without distortion, plate current to a plurality of three-electrode amplifying tubes from a common source. The prior art discloses nothing pertinent to the claims in suit. Both of the courts below held those claims valid, and no adequate reason has been advanced by petitioner why those holdings should be disturbed.

¹ III, 1457, ll. 25-34.

² I, 554-556.

Conclusion to Part IV.

Petitioner has assumed a heavy burden in seeking to establish the invalidity of the patents here in suit, after they have been found by both of the courts below to embody patentable invention over the prior art and to be valid. Yet petitioner's argument is singularly free from references to the specific findings of the courts below, or to any testimony upon which it relies in its effort to overthrow those findings. Petitioner merely repeats—largely without supporting references to the record—the arguments which it made below, and which both of the lower courts found to be without merit.

As this Court said recently in *Radio Corporation v. Radio Engineering Laboratories, Inc.*, 293 U. S. 1, 8:

"Through all the verbal variances, however, there runs this common core of thought and truth, that one otherwise an infringer who assails the validity of a patent fair upon its face bears a heavy burden of persuasion, and fails unless his evidence has more than a dubious preponderance."

By making broad and meaningless statements in its brief,¹ petitioner strives to minimize the importance of the inventions of the patents in suit. Indeed, petitioner seeks to give the impression that they are merely a group of patents for recent and minor developments in the radio art, made after that art was well developed. It will be clear, we think, from what has been said above and from the opinions of the courts below, that such is not the fact. As we have seen, all of the inventions were made at the very inception of the art, they constitute very important parts

¹ Brief, pages 67, 68.

of the foundation of the art, and were necessary to its later development. The inventions are of "great merit" and have "proven of great aid to mankind", as the court below has said regarding the Lowenstein patent. Petitioner even goes so far as to say:¹

"Respondents' present attempt to appropriate monopolies by the mass of patents in this case, which patents differ from each other neither in substance nor disclosure, insofar as they are here pertinent, but the dates of applications for and issuance of which, spread over a period of many years, certainly does not warrant the approval or sanction of this Court."

It is difficult to understand how any one whose business has been based on the use of the inventions of these patents, who has admitted that the inventions are all embodied in its apparatus, who has admitted that the inventions have been widely used and have been commercially successful, and who asserts a license to use the inventions, could make such a statement. As was well stated by the late Judge Coxe in *O'Rourke Engineering Const. Co. v. McMullen, et al.*, 160 Fed. 933, 939 (C. C. A. 2):

"The keynote of all the decisions is the extent of the benefit conferred upon mankind. Where the court has determined that this benefit is valuable and extensive it will, we think, be difficult to find a well considered case where the patent has been overthrown on the ground of non-patentability."

We submit that petitioner has failed utterly to sustain the burden which it has assumed, or even to state a case, which should warrant this Court's review of the concurrent findings of the courts below as to the presence of invention in the patents in suit. As noted above, we

¹ Brief, page 68.

understand the rule to be that such findings will be accepted by this Court unless clear error is shown (*supra*, p. 92). Petitioner has failed to show any error.

The decrees below should be affirmed.

Respectfully submitted,

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